MA 36 N(84)-1

CURRENT INDUSTRIAL REPORTS

Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus

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SUMMARY OF FINDINGS

During 1984 the total value of shipments of selected electronic and associated products, including telephone and telegraph apparatus, totaled $97,585.5 million. This represents a 18 percent increase from the 1983 total value of $83,029.9 million. The 1984 figure includes telephone switching and switchboard equipment, $5,533.1 million, an increase of 19 percent from 1983; other telephone and telephone and telegraph equipment, $8,147.9 million, an increase of 20 percent from 1983; search and detection systems and navigation and guidance systems and equipment, $21,972.4 million, an increase of 10 percent from 1983; integrated microcircuits, $13,211.6 million, an increase of 48 percent from 1983 and electronic components n.e.c., $15,907.8 million, an increase of 27 percent from 1983.

A description of the survey methodology and other related information appears on page 31.

Table 1. VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS, BY CLASS OF PRODUCT: 1979 TO 1984

(Millions of unadjusted dollars)

Product code[1]	Product description	1984	1983	1982	1981	1980	1979
	Selected Electronic and associated products	97,585.5	83,029.9	77,568.0	71,372.6	60,450.4	51,255.4
36611	Telephone switching and switchboard equipment	5,533.1	4,650.7	4,447.8	4,362.9	4,254.3	3,653.3
36612	Other telephone and telegraph (wire) apparatus, equipment and components	8,147.9	6,791.8	6,979.9	7,501.0	6,892.7	6,049.0
36621	Communication systems and equipment (excluding broadcast)	8,585.8	7,557.2	6,854.0	5,722.2	5,138.9	4,245.9
36622	Broadcast, studio, and related electronic equipment	1,449.2	1,464.0	1,543.7	1,446.4	1,186.9	965.8
36624	Alarm systems	938.2	879.6	833.5	761.1	[1]1,192.6	[1]1,066.8
36625	Search and detection systems and navigation and guidance systems and equipment	21,972.4	19,981.6	17,733.4	15,040.2	12,138.9	9,772.9
36626	Vehicular and pedestrian, traffic control systems and electric railway systems and attachments	473.5	681.0	413.1	500.5	(1)	(1)
36628	Intercommunication systems	181.6	176.1	162.5	162.3	(1)	(1)
36629	Electronic systems and equipment n.e.c.[2]	3,338.2	3,120.1	3,111.2	2,899.7	2,489.5	2,081.4
36711	Electron tubes, receiving type	42.3	56.1	42.7	62.6	81.9	87.7
36712	Cathode ray picture tubes, including rebuilt	962.5	926.4	830.3	913.2	914.9	746.2
36713	Transmitting, industrial, and special-purpose electron tubes (except x-ray)	1,133.2	1,089.5	963.9	862.7	778.3	697.6
36741	Integrated microcircuits (semiconductor networks)	13,211.6	8,903.3	7,321.7	6,976.4	6,605.7	4,716.6
36742	Transistors	836.3	625.7	596.8	637.7	599.7	571.3
36743	Diodes and rectifiers	760.8	541.1	493.5	615.5	490.1	499.6
36749	Other semiconductor devices	2,454.0	2,411.2	2,316.7	2,079.4	1,393.4	1,413.1
36750	Capacitors for electronic applications	1,540.3	1,287.8	1,209.2	1,277.0	1,184.0	939.4
36760	Resistors for electronic applications	916.4	763.4	725.0	803.7	809.0	747.5
36770	Coils, transformers, reactors, and chokes for electronic applications	1,147.8	965.7	842.1	952.4	852.1	776.2
36781	Coaxial (RF) connectors	223.8	211.2	214.4	219.3		
36782	Cylindrical connectors	499.5	414.7	387.6	455.3	2,018.1	1,674.1
36783	Rack and panel connectors	441.2	420.1	385.2	393.1		
36784	Printed circuit connectors	725.1	598.0	444.4	460.1		
36785	Parts for connectors	1,285.1	942.0	716.6	674.8		
36791	Filters except microwave and piezoelectric devices	489.0	423.4	408.4	536.2		
36792	Magnetic recording tape[3]	1,545.0	959.2	963.5	1,052.5		
36793	Microwave components and devices	876.4	761.5	766.4	621.4		
36795	Transducers electrical/electronic input or output n.e.c.	453.0	404.5	363.1	350.2	9,619.2	7,908.7
36796	Switches, mechanical types for electronic circuitry	536.3	512.0	446.1	377.2		
36797	Printed circuit boards	3,208.4	2,552.8	2,146.5	1,664.4		
36798	Complex components	3,006.8	2,635.4	2,502.0	2,320.4		
36799	All other electronic components n.e.c.	5,792.8	4,276.5	3,973.4	4,301.6		
36931	X-ray and other irradiation equipment	1,733.5	1,543.5	1,342.2	1,003.8	800.0	845.0
36933	Electromedical equipment	2,519.9	2,556.8	2,419.1	1,936.9	1,612.7	1,437.6
36994 pt.	Automatic garage door openers, electronic	201.9	186.9	137.3	146.7	129.3	132.2
39992 pt.	Electronic games, arcade and amusement center type	288.7	479.9	919.9	1,037.3	452.2	247.5
39447 pt.	Electronic games, home electronic type	134.0	479.2	1,274.2			

Note: The content of industry 3693 was revised in 1976; data for prior years are not directly comparable. See note following table 4.

N.e.c. Not elsewhere classified. pt. Partial.

[1]For 1980 and previous years product classes 36624, 36626, and 36628 were combined with product class 36623. Data for previous product class 36623 is included in product class 36624 to improve comparability with the 1982 Census of Manufactures.
[2]Effective for 1981 product class 36627 has been changed to 36629 to improve comparability with the 1982 Census of Manufactures.
[3]Similar products are collected on the Current Industrial Report MA35R, Computers and Office and Accounting Machines, and the data were added together to form the complete product classification.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Stephen M. Pope, (301) 763-5353.

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Table 2. VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS AS PUBLISHED IN OTHER CURRENT INDUSTRIAL REPORTS: 1984 AND 1983

(Millions of dollars)

Product code	Product description	1984	1983
	Products published in MA36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls:		
36133	Low-voltage panelboards, distribution boards, and other switching and interupting devices 750 volts and below	(NA)	1,290.1
36134	Fuses and fuse equipment, under 2,300 volts	(NA)	296.7
36135	Molded-case circuit breakers, 750 volts and below	(NA)	846.6
36136	Duct, including plug-in units and accessories, 750 volts and below	(NA)	124.3
36138	Relays, control circuit	(NA)	514.6
36138	A.c. and d.c. magnetic control circuit relays	(NA)	299.9
36138	Starter accessories, including overload relays	(NA)	58.5
36220	Industrial controls and other general industry power circuit devices	(NA)	3,832.0
	Product published MA36M, Radio and Television Receivers, Phonographs, and Related Equipment:		
36511	Home, portable, and automobile radios and radio-phonograph-tape recorder combinations	(NA)	1,105.2
36512	Household television receivers	(NA)	3,738.7
36514	Recorders, phonographs, and radio and television chassis	(NA)	291.0
	Consumer high-fidelity components	(NA)	117.8
36515	Speaker systems, microphones, home-type electronic kits, and commercial sound equipment, including public address systems	(NA)	919.5
	Product published in MA35R, Computers and Office and Accounting Machines:		
3572	Automatic typing and word processing machines	1,903.3	1,577.2
35731	Computers, complete	17,159.2	12,702.1
35732	Peripheral equipment for computers	18,878.4	16,748.9
	Auxiliary storage equipment	6,324.6	5,090.0
	Magnetic storage media for computers	2,016.0	1,990.5
	Input/output equipment	3,512.3	3,461.5
	Computer terminals	4,685.8	4,356.4
	Communications interface equipment	345.0	324.0
35734	Parts and components for computers and peripherals produced by complete machine manufacturers	10,239.8	7,519.0
	Products published in MA36K, Wiring Devices and Supplies:		
3643-36435	Current-carrying wiring devices	3,289.2	2,930.9
	Wire connectors	729.9	664.9
35433	Special-purpose switches	251.4	212.1
	Products published in MA33L, Insulated Wire and Cable:		
3357A	Electronic wire and cable	(NA)	1,330.8
3357B	Telephone and telegraph wire and cable	(NA)	1,644.1
3357C	Control and signal wire and cable	(NA)	205.4
	Products published in MA38B, Selected Instruments and Related Products:		
38111	Aeronautical, nautical, and navigational instruments, except aircraft engine instruments	(NA)	1,502.9
38112	Laboratory and scientific apparatus	(NA)	1,004.9
38230	Process control instruments	(NA)	3,542.1
38243	Counting devices	(NA)	150.2
38251	Integrating instruments, electrical	(NA)	381.1
38252	Test equipment for testing electrical, radio, and communication circuits, and motors	(NA)	4,914.8
38253	Instruments to measure electricity	(NA)	545.5
38291	Aircraft engine instruments, except flight	(NA)	328.6
38292	Physical properties and kinematic testing and inspection equipment	(NA)	547.5
38293	Commercial, meteorological, and general purpose instruments	(NA)	326.9
38294	Nuclear radiation detection and monitoring instruments	(NA)	565.9
38326	Analytical and scientific instruments (except optical)	(NA)	2,127.1
38325	Optical instruments	(NA)	1,107.5
38324	Sighting, tracking, and fire-control equipment (optical type)	(NA)	486.3

(NA) Not available.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
36611 --	Telephone switching and switchboard equipment	60	(X)	5,533,142	(X)	4,650,697
	Private branch exchange equipment	(NA)	(X)	1,499,513	(X)	1,050,100
	Common carrier:					
36611 21	Manual	7	(X)	[a]11,617	(X)	[a r]7,865
	Automatic	8	(X)	848,715	(X)	429,069
36611 24	Electromechanical	3				
36611 27	Electronic	7	(X)	848,715	(X)	429,069
	Private carrier:					
36611 31	Manual	3	(X)	(D)	(X)	(D)
	Automatic	14	(X)	(D)	(X)	(D)
36611 34	Electromechanical	4	(X)	(D)	(X)	(D)
36611 37	Electronic	12	(X)	636,016	(X)	609,404
	Telephone central office switching equipment	(NA)	(X)	2,751,248	(X)	2,218,543
	Local switching:					
36611 61	Manual	3				
36611 63	Electromechanical	8	(X)	856,226	(X)	[r]722,870
36611 65	Electronic	11				
36611 67	Specialized switching, including video, digital, and computer controlled	6	(X)	1,525,300	(X)	1,149,504
	Toll switching:					
36611 71	Manual	1				
36611 73	Electromechanical	6	(X)	229,363	(X)	209,608
36611 75	Electronic	6				
36611 77	Specialized switching, including video, digital, and computer controlled	5	(X)	140,359	(X)	136,561
36611 79	Other telephone switching and switchboard equipment n.e.c.	37	(X)	1,282,381	(X)	1,382,054
36612 --	Other telephone and telegraph (wire) apparatus, equipment, and components	163	(X)	8,147,949	(X)	6,791,801
	Carrier line equipment (office and line repeaters and line terminating carrier equipment)	(NA)	(X)	1,894,179	(X)	[r]1,488,489
	Analog:					
36612 21	High-capacity	4				
36612 22	Low-capacity	7	(X)	64,860	(X)	121,655
	Digital:					
36612 23	High-capacity	6				
36612 24	Low-capacity	10	(X)	497,124	(X)	[r]421,403
	Subscriber loop carrier (terminal and line equipment):					
36612 25	Digital	7				
36612 26	Analog	6	(X)	489,165	(X)	325,556
	Miltiplex equipment:					
36612 30	Analog	10				
36612 32	Digital	22	(X)	843,030	(X)	619,875
	Telephone set	(NA)	(X)	808,630	(X)	831,153
36612 33	Pushbutton type (1,000 sets)	15	14,048	571,888	[r]11,431	[r]376,195
36612 36	Dial type(1,000 sets)	10	2,308	57,835	4,582	126,650
36612 35	Cordless handset**	2				
36612 39	Other (call directors, key sets, and special purpose)	10	3,130	178,907	[r]3,106	[r]328,308
	Number of pay stations included in codes 36612 33, 36612 36, and 36612 39	3				
	Number of video sets included in codes 36612 33, 36612 36, and 36612 39	3	(D)	(X)	(D)	(X)
	Teleprinters[1]	(NA)	402	463,617	[r]223	387,157
36612 51	Up to 20 cps	6	33	820,113	[r]38	[a r]25,745
36612 54	21 to 100 cps	6				
36612 57	101 to 200 cps	3	369	443,504	[r]185	361,412
36612 59	Over 200 cps	2				
36612 62	Tape senders and receivers	1				
36612 63	Alphanumeric display terminals based on CRT displays, typically including a keyboard and sometimes including a serial printer or cassettes[1]	13	237	61,051	419	226,072
	Modems (data sets), including auxiliary sets[1]	(NA)	1,058	737,281	[r]1,118	[r]791,219
36612 72	Up to 300 b/s (1,000 sets)	18	93	21,524	[r]95	[r]24,329
36612 74	301 to 2000 b/s (1,000 sets)	20	462	157,075	[r]431	[r]144,901
36612 76	2001 to 4800 b/s (1,000 sets)	15	209	240,489	[r]280	[r]335,378
36612 78	Over 4800 b/s (1,000 sets)	16	294	318,193	312	286,611
	Voice frequency equipment	(NA)	(X)	313,159	(X)	227,920
36612 82	VF carrier telegraph	6	(X)	5,767	(X)	[r]4,705
36612 84	Signaling	14	(X)	128,191	(X)	[r]62,587
36612 86	Facility equipment, including subscriber loop and repeaters	13	(X)	179,201	(X)	[r]160,628
36612 88	Telephone key systems	16	(X)	190,819	(X)	[r]143,253
36612 89	Telephone answering devices**	5				
36612 95	Other telephone and telegraph equipment including telephone answering devices	87	(X)	3,679,213	(X)	[r]2,696,538

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
36621 --	Communication systems and equipment, except broadcast	304	(X)	8,585,800	(X)	7,557,178
	Light communications systems and equipment electronic	(NA)	(X)	325,794	(X)	275,515
36621 13	Fiber optics systems and equipment	16	(X)	113,985	(X)	138,712
36621 14	Other light communication systems and equipment, including laser communication systems and equipment and infrared equipment	17	(X)	211,809	(X)	136,803
	Transmitters, receivers, RF power amplifiers, and radio communications (point-to-point), except amateur and citizens radio, including all components whether shipped as a complete package or shipped separately	(NA)	(X)	1,565,291	(X)	r1,190,589
36621 01	VLF and LF (below 300 kHz)	20	(X)	a125,495	(X)	r95,334
36621 02	Medium and high frequency (300 kHz to 30 MHz)	39	(X)	422,047	(X)	r417,208
36621 03	VHF and UHF (to 890 MHz)	63	(X)	526,819	(X)	541,168
36621 04	Microwave 890 to 1849 MHz	19	(X)	21,333	(X)	15,296
36621 05	Microwave 1850 to 3699 MHz	22	(X)	75,590	(X)	r60,707
36621 06	Microwave 3700 to 6424 MHz	23	(X)	160,847	(X)	r93,816
36621 07	Microwave 6425 to 7899 MHz	15	(X)	71,539	(X)	48,535
36621 08	Microwave 7900 MHz to 12.20 GHz	18	(X)	82,082	(X)	44,563
36621 09	Microwave 13.25 to 19.59 GHz	12	(X)	79,539	(X)	73,962
36621 10	Microwave 19.60 to 56.00 GHz	7				
	Carrier equipment, not elsewhere classified:					
36621 36	Voice channel multiplex for radio systems	19	(X)	119,069	(X)	r220,030
36621 37	Power line carrier equipment	6				
36621 40	Space satellite communication systems	42	(X)	2,036,126	(X)	r1,759,749
36621 31	Telemetering systems and equipment n.e.c., sold separately	31	(X)	303,445	(X)	r304,041
	Mobile radio systems, sold as complete package, including transceivers, power amplifiers, antennae, repeaters, transmitters, receivers, etc., except amateur and citizens radio equipment:					
36621 50	Airborne and marine	13	33,572	62,959	2 b28,875	52,794
36621 55	Ground	12	205,052	197,350	r148,346	161,074
	Mobile base stations, transmit/receive, except amateur and citizens radio equipment:					
36621 52	Air	4				
36621 54	Marine	2	(X)	199,214	(X)	187,665
36621 56	Ground	8				
	Mobile vehicluar, transmit/receive package, except amateur and citizens radio equipment:					
36621 62	Airborne	4	(X)	14,103	(X)	25,503
36621 64	Marine	6				
	Ground:					
36621 65	300 KHz to 30 MHz	7				
36621 67	30.00 to 72.98 MHz	11				
36621 66	72.99 to 150.7 MHz	5	(X)	602,319	(X)	401,359
36621 68	150.8 to 174.0 MHz	13				
36621 71	406.0 to 512.0 MHz	11				
36621 70	806 MHz and higher frequencies	4				
	Portable receivers, transceivers, and transmitter/receivers, except amateur and citizens band:					
36621 82	Portable, including pocket size	19	1,340	608,192	1,080	495,540
36621 84	Pager (one way)	8				
36621 86	Parts and subassemblies for mobile, portable, and base station radios	12	1,757	40,216	1,380	39,991
36621 88	Amateur radio communications equipment, fixed, mobile, and portable (transmitters and RF power amplifiers, receivers, transceivers, transmitter/receivers, etc.)	8	(X)	7,282	(X)	r6,383
	Citizens radio communications equipment:					
36621 21	CB transceivers, hand-held	2	(X)	24	(X)	r89
	CB transceivers, a.c. only:					
36621 23	Single sideband	1				
36621 25	Other	-	-	-	-	-
	CB transceivers, d.c. and d.c./a.c.:					
36621 27	Single sideband	2	(X)	897	(X)	r824
36621 29	Other	2				
36621 53	Facsimile communication equipment*	13	(X)	a95,823	(X)	r151,719
36621 92	Communication antennae systems, below 890 MHz	50	a4,462	a111,968	a4,503	a r129,125
36621 93	Electronic checkout, monitoring, evaluation, and other electronic support equipment for communication systems	37	(X)	b284,390	(X)	241,738
36621 94	Microwave, 890 MHz and above (horns, parabolas, etc.), sold separately	32	b181	a161,891	b170	145,822
36621 98	Other communication equipment, sold separately, including earphones and headsets (monaural), modulators (AM, FM, pulse), keying equipment n.e.c., electronic megaphones, communication security and cryptographic devices, remote transmitter and receiver control equipment, space and time diversity terminal equipment, and other	101	(X)	1,849,447	(X)	r1,567,628

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
36622 --	Broadcast, studio, and related electronic equipment	181	(X)	1,449,234	(X)	r1,464,011
	Audio equipment (excluding consumer and PA types):					
36622 12	Amplifiers and preamplifiers	35	2 a273	a79,900	2 r234	r69,988
36622 13	Control consoles and switchers	23	a8,510	a18,306	27,112	819,919
36622 17	Other audio equipment, including power supplies, terminal equipment, broadcast recorders, etc.	38	(X)	96,490	(X)	96,595
	Video equipment (excluding consumer and PA types):					
36622 22	Amplifiers	14	2 b14,042	b5,031	2 b15,696	a5,355
36622 19	Television cameras**	8	1254	4,392	11,088	32,128
36622 29	Other (power supplies, synchronization equipment, terminal equipment monitors, video tape recorders, and parts and accessories thereof, telecine chains, control consoles and switchers, film equipment, TV outside vans**	39	(X)	494,956	(X)	423,715
	Transmitters, translators, RF power amplifiers, and related equipment:					
36622 31	AM and FM transmitters	11	(X)	33,913	(X)	40,205
36622 34	TV transmitters	6	(X)	27,916	(X)	32,148
36622 37	Other, including broadcast transmission line equipment, phasing equipment, TV boosters and repeaters, etc.	16	(X)	a41,882	(X)	r39,066
36622 51	Studio transmission links and remote pickup equipment	6	(X)	11,219	(X)	41,516
	Cable TV (master antennae and CATV equipment):					
36622 55	Head-end equipment (antenna baluns, carrier generators, head-end control units, single and broadband preamplifiers and strip amplifiers, converters, modulators and demodulators, splitting and mixing networks, FM processing equipment, filters and traps, power supplies, switches, etc.)	27	(X)	84,445	(X)	95,908
36622 57	Subscriber equipment (decoders, converters and switchers, wall outlet taps, distribution amplifiers, power supplies, directional couplers, splitters, alternators, and equalizers)	18	(X)	307,350	(X)	356,588
36622 30	Broadcasting transmitting antennae and community antennae systems	13	(X)	38,016	(X)	49,054
36622 41	Closed circuit television systems and equipment, excluding broadcast and consumer products, including specially designed cameras, monitors, video recorders, receivers, scan converters, and control consoles	29	(X)	153,615	(X)	r99,221
36622 40	Other broadcast, studio, theatre, and commercial sound equipment, sold separately, excluding studio lighting equipment and radiating and supporting towers*	35	(X)	51,803	(X)	r62,605
36628 --	Intercommunications systems, including inductive paging systems (selective calling)	39	(X)	181,581	(X)	176,130
36628 12	Wired	33	(X)	133,012	(X)	124,189
36628 13	Nonwired	5	(X)	48,569	(X)	r51,941
36628 14	AM/FM home radio intercom systems	5				
36624 --	Alarm systems	112	(X)	938,237	(X)	879,625
	Intrusion detection:					
36624 48	Local	57	(X)	293,139	(X)	r289,258
36624 49	Central station	44	(X)	159,841	(X)	140,303
36624 50	Direct connect	17	(X)	66,298	(X)	r75,580
36624 51	Holdup systems (commercial and industrial)	12	(X)	14,228	(X)	r10,964
	Fire detection and prevention:					
	Smoke and heat detection alarms:					
36624 53	Ionization chamber type	30	(X)	172,256	(X)	155,645
36624 54	Other, including photocell type	25	(X)	115,704	(X)	95,678
36624 56	Central station	19	(X)	70,034	(X)	66,813
36624 57	Direct connect	15	(X)	46,737	(X)	45,384
36625 --	Search and detection systems and navigation and guidance systems and equipment	268	(X)	21,972,420	(X)	19,981,638
36625 10	Light reconnaissance and surveillance electronic systems and equipment (infrared, ultraviolet, and visible light), including bomber-defense equipment, fire control equipment (except optical), IR fuses, space satellite and other IR detection and warning systems, sniperscopes, snooperscopes, night driving equipment, mapping equipment photographic equipment, wake detection, and electronic checkout, monitoring, evaluation for light reconnaissance and surveillance electronic systems	40	(X)	1,407,124	(X)	1,666,335
36625 22	IFF equipment	9	(X)	123,906	(X)	151,455
36625 32	Proximity fuses	8	(X)	259,634	(X)	209,854
	Radar systems and equipment:					
	Search, detection, and acquisition radar systems and equipment (BMEWS, airborne and other early warning radar, air traffic control radar, air defense and fighter control radar, ship radar, harbor control radar, meteorological radar, etc.)	23	(X)	1,300,433	(X)	r1,263,723
36625 42	Airborne and missile/space radar	15	(X)	1,460,586	(X)	r1,267,225
36625 44	Ship (marine) radar	23	(X)	597,496	(X)	813,421
36625 46	Ground radar					

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Search and detection systems and navigation and guidance systems and equipment--Continued					
	Radar systems and equipment--Continued					
	Tracking radar systems and equipment (fire control, bombing, bombing-navigational radar, aircraft and missile tracking radar, etc.):					
36625 62	Airborne and missile/space radar	17	(X)	1,271,657	(X)	1,293,430
36625 64	Ship (marine) radar	14	(X)	329,615	(X)	334,489
36625 66	Ground radar	20	(X)	561,947	(X)	460,529
	Instrumentation radar systems and equipment (altimeters, highway speed control radar, missile and space staellite tracking range radar, GCA and other precision approach radar, etc.):					
36625 70	Airborne, missile/space and ship (marine) radar	7	(X)	40,752	(X)	9,351
36625 76	Ground radar	13	(X)	68,699	(X)	r64,131
36625 82	Electronic checkout, monitoring, evaluation, and other electronic support equipment for radar systems*	25	(X)	383,955	(X)	r329,245
	Sonar search, detection, tracking and communication systems and equipment including ASW (sonar telephone communication equipment, depth finding, fire control, fusing, guidance, hydrophones, mapping, sonabuoys, navigation, sonar fish finders, sonar range instrumentation, and other):					
36625 52	Surface ship applications (destroyers, destroyer escort, etc.)	26	(X)	433,419	(X)	r456,570
36625 53	Submarine applications	30	(X)	841,073	(X)	681,628
36625 55	Airborne	21	(X)	303,968	(X)	r235,956
36625 58	Electronic checkout, monitoring, evaluation, and other electronic support equipment for sonar systems and submerged fixed systems*	19	(X)	240,551	(X)	287,798
36625 91	Specialized command and control data processing in display equipment, sold separately from complete systems*	26	(X)	561,215	(X)	r536,704
36625 98	Search, detection, identification, and tracking systems and equipment n.e.c.	35	(X)	1,461,146	(X)	r1,189,446
36625 51	Meteorological electronics equipment and radio astronomy equipment (automatic weather stations and weather tracking equipment, ceilometers, transitometers, space satellite meteorological systems, and specialized meteorological telemetering equipment*	15	(X)	78,581	(X)	78,668
36625 59	Geophysical electronic equipment (exploration and other specialized geophysical equipment)*	30	(X)	319,675	(X)	228,468
	Electronic warfare systems and equipment:					
	Countermeasures equipment:					
36625 11	Jamming equipment, communications, and radar	32	(X)	1,466,133	(X)	1,051,478
36625 13	Underwater contermeasures equipment	6	(X)	179,350	(X)	179,422
26625 15	Other active countermeasures equipment (excluding passive materials such as chaff, window, needles, rope, etc.)	19	(X)	312,487	(X)	364,915
36625 41	Specialized electronic and communication intelligence equipment, including specially designed DF equipment, signal reduction and processing equipment, and signal analyzers and display equipment	45	(X)	[a]1,580,039	(X)	1,349,088
	Missile and space vehicle systems and equipment (beam riders, command guidance, inertial systems infrared homing systems, radar systems, stellar trackers, television systems, combination systems, etc.):					
36625 12	Missile-borne and space-vehicle-borne equipment	49	(X)	2,650,856	(X)	r1,855,852
36625 08	Nonmissile and space vehicle guidance equipment (ground, ship, or airborne command guidance systems, etc.)	13	(X)	480,721	(X)	420,186
36625 14	Electronic checkout, launching, and other missile and space vehicle support systems (ground, ship, and air)*	23	(X)	551,659	(X)	490,098
	Navigation systems and equipment, navigational aids for aircraft, ship, and ground navigation (autopilots, beacons, transponders, colision warning devices, DECCA, DME, ILS, doppler navigation systems, inertial navigation systems, optical/laser loran, radio compasses and direction finders, SHORAN, TACAN, VOR, VORTAC equipment, etc.):					
	Airborne navigation systems:					
36625 83	Radio navigation receivers and displays (including OMNI, radio magnetic, glide slope/localizer, DME, etc.)*	25	(X)	236,994	(X)	196,816
36625 84	Airborne integrated data systems/flight recorders*	9	(X)	119,939	(X)	124,400
36625 85	Distance measuring equipment(DME)*	12	(X)	33,693	(X)	55,580
36625 86	Flight directors/situation display*	9	(X)	107,299	(X)	100,476
36625 87	Heads-up display (HUD) systems*	8	(X)	140,733	(X)	r131,633
36625 88	Inertial navigation systems*	8	(X)	366,446	(X)	358,524
36625 89	Proximity warning/collision avoidance equipment*	4	(X)	205,596	(X)	r186,364
36625 90	Complete automatic pilots*	10				
36625 92	Other airborne navigational systems*	24	(X)	370,174	(X)	438,321
36625 16	Surface (ship and ground) navigational systems*	38	(X)	360,586	(X)	407,945
36625 17	Underwater navigational systems*	11	(X)	150,406	(X)	154,659
36625 18	Electronic checkout, monitoring, evaluation, and other electronic support equipment for navigational systems and equipment*	43	(X)	613,877	(X)	r556,855

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Search and detection systems and navigation and guidance systems and equipment--Continued					
36626 --	Vehicular and pedestrian traffic control equipment	43	(X)	473,476	(X)	r480,958
36626 42	Signal heads, including parts and accessories	12	(X)	a35,234	(X)	34,384
36626 43	Electronic and electromechanical controllers, detectors and sensors, parts, and accessories	32	(X)	a119,404	(X)	114,685
36626 21	Railway signals and attachments, electric railway highway grade crossing signals, exclusive of relays and other central apparatus	6	(X)	318,838	(X)	r331,889
36626 29	Other railway signal systems and safety control equipment	9				
36629 --	Electronic systems and equipment n.e.c.	279	(X)	3,338,175	(X)	3,120,056
36629 11	Electronic kits to be assembled by purchaser (except high-fidelity component) including computers, receivers, transceivers, transmitter-receivers, amateur equipment kits, and test and measuring equipment kits*	18	(X)	248,186	(X)	r193,761
	Ultrasonic equipment, (except medical):					
36629 23	Cleaners, drills, welders, and solderers	14	(X)	b78,949	(X)	48,527
36629 26	Other ultrasonic equipment	12	(X)	b51,806	(X)	58,504
	Amplifiers, except audio, RF power, and video, sold separately:					
36629 62	Magnetic and pulse	10	(X)	a2,314	(X)	3,295
36629 63	Maser	2	(X)	37,992	(X)	r33,196
36629 67	DC	13				
36629 69	Other (differential, facsimile, etc.)	10	(X)	23,327	(X)	21,059
36629 77	Particle accelerator electronics equipment and subassemblies for betatrons, cyclotrons, synchrotrons, etc.; linear accelerators: dynamotrons vandergraff, traveling wave, etc	11	(X)	23,510	(X)	r33,865
36629 72	Consumer electronic equipment n.e.c.*	30	(X)	449,106	(X)	321,884
36629 74	Scientific electronic equipment n.e.c.*	41	(X)	a177,369	(X)	184,820
36629 76	Power supply portion of integrated TWT amplifier package	10	(X)	52,000	(X)	52,633
36629 78	Electronic teaching machines and teaching aids	17	(X)	69,795	(X)	r21,308
36629 81	Electronic trainers and simulators*	37	(X)	718,496	(X)	770,727
	Laser systems and equipment, except communication:					
36629 83	Laser designator/ranging equipment	10	(X)	285,226	(X)	290,416
36629 84	Laser instrumentation (laboratory alignment devices, surveying equipment, etc.)	16	(X)	100,992	(X)	90,343
36629 85	Industrial laser equipment (welding, drilling, cutting, printing, wirephoto, etc.)	19	(X)	129,822	(X)	r90,303
36629 87	Medical laser equipment	8	(X)	93,539	(X)	74,163
36629 88	Laser generator, power supplies, and other laser equipment and components sold separately	19				
36629 97	Other electronic systems, equipment, and subassemblies n.e.c.	139	(X)	795,746	(X)	r831,252
36711 00	Receiving type electron tubes, all types	6	13,830	42,315	19,903	r56,118
36712 --	Cathode ray picture tubes	24	15,507	962,546	13,299	926,424
	Television tubes, including any defective tube that has been repaired or rebuilt:					
36712 17	Black and white, new	2	585	25,349	807	22,976
36712 18	Black and white, rebuilt	11				
	Color, new:					
36712 21	17 inch and under	5	2,064	115,307	1,570	88,221
36712 23	18 inch and 19 inch	4	5,976	408,128	5,834	429,551
36712 25	20 inch and over	4	3,852	378,548	3,439	353,397
36712 20	Color, rebuilt	22	3,030	35,214	1,649	32,279
36713 --	Transmittal, industrial, and special purpose electron tubes (except X-ray)	48	(X)	1,133,214	(X)	1,089,502
	Power and special purpose tubes:					
	High vacuum tubes:					
36713 12	Triodes and multigrid external anodes	10	2681,481	103,240	2591,265	85,651
36713 17	other, including diodes, triodes, and multigrid internal anodes	8	2198,987	26,593	2223,177	26,302

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Transmittal, industrial, and etc.--Continued					
	Power and special-purpose tubes--Continued					
	Gas and vapor tubes:					
36713 23	Thyratrons, including hydrogen	6	[2] [a]161,238	[a]17,714	[2] [a]149,408	[a]16,374
36713 26	Other gas and vapor tubes	7	140,976	57,398	120,899	38,465
	Klystrons:					
36713 31	Amplifier	7				
36713 36	Reflex	4	[2]126,344	123,425	[2]172,326	119,450
36713 41	Other klystrons	1				
	Magnetrons:					
36713 45	Pulsed, fixed and tunable	7	[2]30,658	53,648	[2]33,193	66,404
36713 50	Other, including cross-field and CW	5	[1]2,704	40,505	[1]3,498	30,294
	Traveling wave tubes:					
	Forward wave:					
	CW:					
36713 55	Up to and including 10 watts CW power output rating	6	[2]7,270	55,368	[2]5,664	43,342
36713 61	Over 10 watts CW power output rating	7	[2]22,468	118,491	[2]22,208	127,294
	Pulsed power:					
36713 65	Up to and including 1 KW peak power output rating	6	[2]1,254	9,911	[2]2,690	19,022
36713 66	Over 1 KW peak power output rating	5	[2]7,377	103,435	[2]5,915	87,504
36713 92	Backward wave	4	[2] [a]3,252	16,375	[2] [b]5,097	22,228
	Light sensing tubes:					
36713 70	Camera tubes, photo emissive and photo conductive	8	[2] [b]162,739	38,793	[2] [b]161,934	38,714
36713 73	Image intensifiers and converters	5	[1] [a]31,813	[a]55,538	[1]38,270	67,671
36713 76	Photo miltipliers and other	7	[1]130,961	26,661	[1]57,327	15,257
	Light emitting devices:					
	Storage tubes:					
36713 79	Electrical readout, all sizes	4	[2]10,577	32,381	[2]7,992	24,649
36713 82	Direct view, all sizes	3				
36713 85	CRT's, industrial and military	13	[2]98,025	61,333	[2]108,422	62,014
	Special display devices (including alphanumeric readout tubes):					
36713 88	Figure indicating tubes	3				
36713 91	Other	5				
36713 96	Miscellaneous special-purpose tubes, including reference cavities, radiation detection (geiger, neutron counters, etc.), beam deflection, decade counters, orbital beam, vacuum gauges, vacuum capacitors, switches, relays, etc	12	(X)	192,405	(X)	198,867
36741 --	Integrated microcircuit packages*	126	(X)	13,211,599	(X)	8,903,267
36741 10	Hybrid integrated circuits, thick film composed of material deposited by silk screen process on a passive substrate combined with discrete active or passive components*	50	(X)	580,236	(X)	468,432
36741 11	Hybrid integrated circuits, thin film composed of material deposited by vacuum deposition, sputtering or similar process on a passive substrate combined with discrete active or passive components*	28	(X)	321,688	(X)	261,595
36741 12	Hybrid integrated circuits, multichip circuits not incorporating film techniques. These are usually combinations of chip, active and/or passive; discrete package devices may be used for some but not all circuits*	24	(X)	[a]98,015	(X)	81,732
	Monolithic integrated circuits:**					
	Bipolar:**					
	Logic/Microprocessors					
36741 16	TTL (transistor-transistor logic), excluding microprocessors	15	2,511,599	2,541,108	(X)	1,310,805
36741 17	CML/ECL (current mode logic/emitter coupled logic), excluding microprocessors	13	180,069	232,028	(X)	113,403
36741 22	I^2L (integrated injector logic), excluding microprocessors	8	7,073	48,144	(X)	42,510
36741 23	Linear bipolar, excluding microprocessors**	12	968,379	1,079,051	(X)	([3])
36741 24	Microprocessors	12	13,358	265,044	(X)	100,820
35741 25	Other bipolar logic**	5	335,814	497,919	(X)	[3]1,221,506
	Memory**					
36741 27	Random access memories**	5	14,979	61,832		
36741 29	Read only memories**	3	31,790	198,083	(X)	([3])
36741 33	Other bipolar memories**	4				
36741 35	Other bipolar integrated circuits**	12	132,735	448,587		
	Metal oxide semiconductor (MOS)**					
	Logic/Microprocessors					
36741 37	MOS linear ICs, exclude microprocessors and microcontrollers**	30	[a]729,124	[a]1,210,788		
36741 39	Microprocessors, 4-bit**	2	17,077	60,283		
36741 40	Microprocessors, 8-bit**	6				
36741 41	Microprocessors, 16-bit**	5	391	19,382		
36741 42	Microprocessors, 32-bit**	5	126	70,046	(X)	1,601,761
36741 43	Microcontrollers, 4-bit**	2	32,188	167,653		
36741 44	Microcontrollers, 8-bit**	3				
36741 45	Microcontrollers, 16-bit**	1	121,716	809,739		
36741 47	Other MOS microprocessors	9				
36741 48	Other MOS microcontrollers**	6	27,947	133,309		

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Metal oxide semiconductor (MOS)**--Continued					
	Memory**					
	MOS memories, dynamic random access, (DRAMs)**					
36741 50	DRAMs, under 9,000 bits**	2	59,022	132,992		
36741 51	DRAMs, 9,000 - 19,999 bits**	6				
36741 52	DRAMs, 20,000 - 39,999 bits**	2	261,327	1,367,690		
36741 53	DRAMs, 40,000 - 79,999 bits**	6				
36741 54	DRAMs, 80,000 - 300,000 bits**	4	5,260	251,254		
36741 55	DRAMs, over 300,000 bits**	-	-	-		
	MOS memories, static random access, (SRAMs)**					
36741 56	SRAMs,under 9,000 bits**	9	15,579	100,779		
36741 57	SRAMs, 9,000 - 19,999 bits**	8	14,998	185,765		
36741 58	SRAMs, 20,000 - 80,000 bits**	3	1,981	36,191		
36741 59	SRAMs, over 80,000 bits**	3				
	MOS memories, read only (Mask)**					
36741 61	MOS ROMs (Mask), under 20,000 bits**	6	4,564	16,416		
36741 62	MOS ROMs (Mask), 20,000 - 39,999 bits**	3	1,956	5,518		
36741 63	MOS ROMs (Mask), 40,000 - 79,999 bits**	8	[a]20,590	49,114		
36741 64	MOS ROMs (Mask), 80,000 - 199,999 bits**	5	21,358	49,986		
36741 65	MOS ROMs (Mask), 200,000 - 400,000 bits**	3	1,803	10,505	(X)	3,294,057
36741 66	MOS ROMs (Mask), over 400,000 bits**	-	-	-		
	MOS memories, erasable programmable ROMs, (EPROMs)**					
36741 67	MOS EPROMs, under 20,000 bits**	4	[b]5,173	39,937		
36741 68	MOS EPROMs, 20,000 - 39,999 bits**	3	[a]336	40,577		
36741 69	MOS EPROMs, 40,000 - 79,999 bits**	3	[b]12,099	80,256		
36741 70	MOS EPROMs, 80,000 - 199,999 bits**	-	-	-		
36741 71	MOS EPROMs, 200,000 - 400,000 bits**	-	-	-		
36741 72	MOS EPROMs, over 400,000 bits**	-	-	-		
	MOS memories, electrically erasable programmable ROMs, (EEPROMs)**					
36741 74	MOS EEPROMs, under 20,000 bits**	3	[b]5,456	[b]19,589		
36741 75	MOS EEPROMs, 20,000 - 79,999 bits**	3				
36741 76	MOS EEPROMs, 80,000 - 200,000 bits**	1	2,364	12,923		
36741 77	MOS EEPROMs, over 200,000 bits**	2				
36741 79	Other MOS memories**	10	170,803	648,653		
36741 89	Other MOS integrated circuits**	22	119,422	711,895		
36741 99	Other monolithic integrated circuits**	10	[b]27,049	608,624	(X)	406,646
36742 --	Transistors	44	(X)	836,253	(X)	625,720
36742 63	Signal (less than 1 watt dissipation)	28	(X)	384,725	(X)	272,459
36742 64	Power (1 watt or greater dissipation)	34	(X)	451,528	(X)	353,261
36743 --	Diodes and rectifiers	48	4,060,475	760,752	3,177,843	541,097
36743 22	Signal diodes and assemblies thereof (maximum current 0.5 amps)	17	2,255,116	153,848	1,893,536	136,889
36743 42	Semiconductor rectifiers/power diodes and assemblies thereof (current rating greater than 0.5 amps)	26	891,918	315,272	686,689	208,695
36743 94	Zener diodes (voltage regulator and voltage reference diodes)	21	873,139	165,404	575,307	100,444
36743 12	Selenium rectifiers	7	16,507	22,892	1,770	2,787
36743 83	Microwave diodes (mixers, detectors, varactors, parametric, harmonic generators, etc.)	16	23,795	103,336	20,541	92,282
36749 --	Other semiconductor devices	154	(X)	2,453,996	(X)	2,411,204
	Light-sensitive and light-emitting devices:					
36749 12	Solar cells	14	(X)	45,656	(X)	47,773
	Light-emitting diodes (LED)**					
36749 14	Discrete, infrared and laser**	6	(X)	89,888	(X)	63,616
36749 16	Alpha or numeric displays**	4				
36749 22	Photodiodes, including infrared detectors**	15	(X)	10,384		
36749 24	Optical coupled isolators, including sensors and emitters**	7	(X)	65,914	(X)	131,378
36749 29	Other light sensitive and light-emitting devices, including photovoltaic devices and photoelectric-magnetic devices**	33	(X)	153,585		
	Other semiconductor devices:					
36749 85	Thyristors (SCR's, triacs, PNPN diodes)	24	(X)	120,176	(X)	94,094
36749 86	Hall effect devices**	2				
36749 87	All other semiconductor devices, including tunnel diodes, thermo-electric semiconductor junctions, metal-oxide varistors, solid-state tranducers, and special semiconductor devices n.e.c.*	30	(X)	221,450	(X)	245,419

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Semiconductor parts:					
	Chips and wafers:**					
36749 94	For integrated circuits (IC's)**	26	(X)	1,111,901	(X)	1,313,529
36749 96	For discrete semiconductors**	24	(X)	123,099		
36749 97	All other semiconductor parts (headers, packages, heat sinks, and other accessories)	81	(X)	511,943	(X)	r515,395
36750 --	Capacitors	84	11,260,536	1,540,318	9,259,355	1,287,830
	Paper, film and dual (film/paper) dielectric:					
	A.c. types (metal case) all dielectric types:					
36750 11	Motor run and general purposes	12	32,892	a112,752	22,556	75,380
36750 12	HID lighting	9	4,882	16,929	5,742	20,304
	D.c. types:					
	Paper dielectric:					
36750 14	Metal case	17	a34,504	a23,973	a32,333	25,134
36750 15	Nonmetal case	11	819	1,254	685	r910
36750 23	Film dielectric, metal and nonmetal case	33	226,696	58,882	r219,398	48,103
	Metallized dielectric:					
36750 35	Metal case	16	6,782	23,117	6,058	22,835
	Nonmetal case:					
36750 38	Radial leads	14	40,135	10,111	31,647	7,875
36750 39	Axial leads	24	42,400	25,822	40,400	24,678
	Dual (film/paper) dielectric:					
36750 58	Metal case (tubular and other)	15	16,270	20,207	r13,989	r18,030
36750 59	Nonmetal case (radial and axial lead)	13	8,631	5,125	r13,003	r6,321
	Tantalum electrolytic:					
	Slug and wire solid dry electrolytic:					
36750 62	Metal case, hermetic	6	285,771	99,105	242,985	87,658
36750 65	Metal case, nonhermetic	4	1,141,270	236,754	806,831	r174,126
36750 67	Nonmetal case	10				
36750 68	Chips	4				
36750 70	Foil electrolytic	6	54,053	80,327	43,214	83,237
36750 71	Wet slug electrolytic	7				
	Aluminum electrolytic:					
	Tubular:					
36750 73	Metal case, standard (5/8-inch diameter and up)	8	22,515	32,501	23,235	31,831
36750 75	Metal case, subminiature (less than 5/8-inch diameter)	7	90,330	27,866	67,332	21,659
36750 72	Other than metal case	5	17,720	27,106	17,647	25,528
36750 74	A.c. motor start	5				
36750 76	Other can style (excluding small can style)	5	19,125	84,331	17,842	73,522
36750 79	Small can style and other aluminum electrolytic capacitor n.e.c.	5				
36750 78	Mica dielectric, fixed	9	92,880	38,611	72,332	33,369
	Ceramic dielectric:					
36750 97	Fixed tubular, fixed disc	7	931,365	36,237	r1,010,296	r36,318
36750 98	Stand-off tubular and disc and all two terminal ceramic devices	8	22,990	6,482	r41,829	r4,570
	Monolithic:					
36750 81	Chips	18	3,091,714	133,697	r2,231,702	111,881
	Leaded-radial:					
36750 82	Molded	9	1,021,268	106,719	652,184	63,380
36750 84	Dipped	15	1,259,554	112,483	r1,152,260	91,711
	Leaded-axial:					
36750 91	Molded	11	692,384	60,592	r271,126	r26,682
36750 92	Glass and conformal	10	1,996,485	113,803	2,231,039	124,230
36750 86	Other	6				
36750 87	All other fixed	8	49,952	6,075	106,095	9,099
	Variable:					
36750 95	Mica, ceramic and glass dielectric	7	41,253	18,330	r52,006	r16,497
36750 96	Air dielectric and other	11	r15,896	a23,127	33,589	22,962
36760 --	Resistors	91	5,945,886	916,434	4,995,606	763,385
36760 11	Fixed, composition	11	1,409,044	67,102	r1,387,927	59,866
36760 16	Fixed deposited carbon	10	349,554	21,011	385,794	17,115
36760 17	Fixed evaporated metal film and other metal alloys, metal oxide, metal/glass or metal/ceramic element	33	2,864,158	182,290	r2,127,332	r149,991
	Variable, nonwirewound:					
36760 23	Single turn, carbon and other film, nonprecision	8	78,299	59,583	r77,523	55,622
36760 26	Single turn, precision and nonprecision	15	65,146	78,290	56,325	61,795
	Trimmers (industrial and military grade):					
36760 30	Square and round	10	104,803	70,213	94,941	65,718
36760 33	Rectangular	8	39,367	22,714	41,261	24,007
	Fixed, wirewound:					
36760 37	Nonprecision (fixed and adjustable) over 1 percent	21	400,966	74,598	337,908	58,438
36760 40	Precision, unsealed	4	71,094	51,017	51,363	42,202
36760 43	Precision, encapsulated and miniature, 3 percent or less	19				

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Capacitors--Continued.					
	Variable, wirewound:					
36760 46	Nonprecision, single turn (wiper or shaft traverses 360-degrees or less)	6	12,272	16,471	17,680	13,864
36760 50	Single turn, linear, precision (0.5 percent linearity or less) and nonlinear, precision (1 percent linearity or less)	13	479	11,173	r436	r11,513
36760 53	Trimmers, variable wirewound (industrial and military grade)	6	9,616	18,856	7,205	19,426
	Miscellaneous:					
36760 56	Varistors	2	117,628	19,024	95,408	18,549
36760 61	Thermistors, bead type, disc, rod, etc.	12				
36760 64	Miltiturn, all types, wirewound and nonwirewound	11	92,425	[1]20,107	[2] r82,063	[2] r20,007
36760 66	Fixed resistor networks	26	421,035	153,985	r317,440	r109,274
36770 --	Coils, transformers, reactors, and chokes for electronic applications	269	(X)	1,147,843	(X)	965,678
36770 32	Audio transformers	110	[A]60,758	[B]242,950	42,945	164,120
36770 33	Low frequency chokes	108	10,177	30,422	8,885	27,007
36770 41	Plate and filament transformers (including auto-transformers, except toroidal)	117	22,924	208,676	r17,808	r196,036
36770 61	Pulse transformers, computer, and other types	106	28,633	115,740	21,740	88,218
36770 12	RF chokes	48	168,193	45,637	122,244	36,231
36770 13	RF coils	50	85,910	51,769	r61,448	36,134
36770 14	IF transformers	33	10,927	19,094	10,881	15,627
36770 71	Television transformers and reactors (horizontal output, vertical deflection, focus coils, deflection yokes, etc.)	24	6,313	45,912	5,112	46,754
36770 91	Toroidal windings (transformers and reactors), except complete magnetic amplifiers	124	[3]28,019	100,906	[3] r22,310	86,306
36770 92	Other (balun coils, permeability tuning devices, etc.)	81	(X)	286,737	(X)	r269,265
3678- --	Connectors (electronic)(quantity in 1,000 connector equivalents)*	(NA)	(X)	3,174,621	(X)	2,585,967
36781 --	Coaxial (RF) connectors*	34	278,133	223,776	327,114	211,183
36781 21	Miniature (BNC, PNC, MHB)**	8	160,415	115,612		
36781 22	Subminiature (SMA, SMB, SMC)	17			327,114	211,183
36781 24	Other standard and precision**	16	[B]117,718	108,164		
36782 --	Cylindrical connectors	30	171,360	499,480	144,069	414,690
36782 25	Heavy duty and standard*	23	29,601	180,252	24,358	151,637
36782 29	Miniature*	19	24,312	168,692	23,352	141,019
36782 31	Subminiature*	10	117,447	150,536	96,359	r122,034
36783 --	Rack and panel (rectangular) connectors	26	1,094,107	441,179	1,119,156	420,066
36783 35	Integral shell, Mil-C-22857 (8434) and similar types*	21	406,819	124,424	r423,481	124,919
	Subminiature**					
36783 42	Ribbon (including planar cable type)**	8	515,493	261,026	695,675	295,147
36783 44	D-Subminiature (including planar cable type)**	11	170,789	48,419		
36783 46	Microminiatures**	5	1,206	7,310		
36784 --	Printed circuit connectors	54	3,074,021	725,072	3,234,068	598,022
36784 44	Card insertion types	45	1,712,077	402,711	1,227,990	321,403
	Two-piece types*	20	1,361,944	322,361		
36784 48	Post, header and receptacle type**	14	1,311,091	283,482	2,006,078	276,619
36784 49	Other two-piece types	6	50,853	38,879		
36785 --	Other connectors	79	(X)	1,285,114	(X)	942,006
36785 41	Hermetic sealed (except single-contact and coaxial types)	26	13,935	158,191	[4]13,151	[4]152,480
36785 51	Plate module types	10	5,396	12,239	[B]10,149	[B]15,584
36785 53	Fiber optic connectors**	4	486,036	353,940	377,810	261,186
36785 59	Other planar cable (flat conductor or ribbon cable)(excluding rack and panel (rectangular) types)**	18				
36785 54	Miscellaneous special purpose	59	2,272,112	641,103	1,785,675	418,910
36785 56	Parts for connectors (connectors shipped but still requiring further manufacture)*	23	(X)	[B]119,641	(X)	[A] r91,866

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
3679- --	Electronic components and subassemblies n.e.c.	(NA)	(X)	15,907,772	(X)	12,525,163
36791 --	Filters, except microwave and piezoelectric devices	110	(X)	488,991	(X)	423,350
	Filters, except microwave	(NA)	19,479	198,025	r17,199	166,468
36791 11	Mechanical, excluding optical lenses (germanium silicon, fused quartz, rock salt, and other)	5	8	1,520	r7	r3,621
	RFI/EMI control filters:					
36791 13	Ceramic dielectric	9	a5,878	a35,557	r4,995	29,717
36791 15	Combination or other dielectric	20	a7,509	90,352	6,915	80,381
	Feed through and bypass capacitors:					
36791 17	Ceramic dielectric	7	a5,375	a22,091	4,657	18,437
36791 19	Other dielectric	8	a223	a1,847	r333	3,224
36791 21	Electronic wave filters (LC band and high pass)	34	486	46,658	r292	31,088
	Piezoelectric devices	(NA)	67,574	290,966	54,508	256,882
	Oscillator crystals:					
36791 31	AT-cut	35	a12,567	62,808	a r11,460	a r48,648
36791 33	Other	14	7,457	23,764	r6,775	r23,325
	Crystal oscillators:					
36791 35	Oven	11	26	12,580	24	10,156
36791 37	TCXO/VCXO	14	248	21,448	152	9,425
36791 39	Hybrid	14	5,780	70,544	r5,154	101,345
36791 41	Other	8				
	Crystal filters:					
36791 43	Monolithic (include filter crystals and/or monolithic filter units not assembled into filters)	14	4,597	27,726	3,510	21,672
36791 45	Packaged AT-cut (packaged including monolithic, tandem monolithic, and resonator filter assemblies)	11	b477	a11,799	b351	a8,063
36791 47	Other	6	181	13,768	r197	12,555
	Crystal blanks:					
36791 51	AT-cut	12	36,241	46,529	r26,885	r21,693
36791 55	Other	6				
36792 --	Magnetic recording tape (media) (blank or unrecorded)**	17	(X)	1,545,029	(X)	959,178
	Audio range tape:**					
36792 12	Reels**	5	446,634	69,566		
36792 14	Cassettes**	9	128,460	75,008	(X)	92,069
36792 16	Other, including pancakes**	3	(D)	(D)		
	Video tapes:**					
	Cassettes:**					
36792 22	8 mm and 1/2" size**	6	44,127	333,147		
36792 24	3/4" and 2" size**	5	15,236	241,174	(X)	(4)
36792 26	Other video tape including pancakes**	2	(D)	(D)		
	Computer tape (media):**					
36792 59	Flexible (floppy) disks**	9	39,773	251,573	(X)	396,436
36792 61	Reel**	6	5,279	328,528		
36792 62	Cassettes and cartridges**	4				
36792 79	Other magnetic recording tape, including instrumentation tape and high density recording (HDDR)**	3	(X)	126,644	(X)	4470,673
36793 --	Microwave components and devices, except antennae, tubes, and semiconductors	110	(X)	876,435	(X)	r761,458
36793 11	Ferrite (including yttrium garnets) microwave components (circulators, all types; isolators; phase shifters; attenuators, equalizers; limiters; and mixers)	35	(X)	160,029	(X)	146,518
	Microwave devices, other than ferrite and solid state:					
36793 21	Attenuators, dummy loads, high and low-power terminations, etc.	49	(X)	113,684	(X)	88,845
36793 23	Cavities, including amplifier cavities and coaxial tuned cavities	14	(X)	20,907	(X)	17,047
36793 25	Couplers (directional couplers, hybrid junctions, etc.)	41	(X)	57,802	(X)	42,171
36793 27	Reactive microwave components n.e.c.	43	(X)	89,886	(X)	a76,596
36793 29	Switches, coaxial and waveguide	28	(X)	37,206	(X)	32,536
36793 31	Rigid waveguide and fittings, including bend and twists, couplings, flanges, other simple waveguide components n.e.c.	33	(X)	67,058	(X)	53,658
36793 33	Flexible waveguides and fittings	9	(X)	27,565	(X)	32,831
36793 51	Other microwave components, except ferrite devices, including coaxial to waveguide and other transistions, duplexers and diplexers, holders and mounts, linear and circular polarizers, magnetron test plumbing, rotary joints and sector scan joints, mixer arrays, shutters, tuners, and windows	50	(X)	153,784	(X)	r139,955
36793 71	Microwave subassemblies, including parametric amplifiers and other solid-state assemblies	28	(X)	148,514	(X)	r131,301
36795 --	Transducers, electrical/electronic input or output n.e.c.	64	17,858	452,989	16,837	404,526
36795 11	Acoustical, including sonar, ultrasonic and vibration*	22	12,836	148,490	11,478	132,014
	Mechanical:					
36795 21	Accelerometers*	14	56	54,851	50	48,366
36795 23	Pressure*	24	303	86,927	361	96,567
36795 25	Strain gauges and other mechanical*	19	341	64,073	208	46,191
36795 31	Thermal, including pyrometers, and thermocouples*	4	4,322	98,648	4,740	91,388
36795 98	Other, including optical, chemical, magnetic, and nuclear*	15				

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
	Filters, except microwave, etc.--Continued					
36796 --	Switches, mechanical types for electronic circuitry	49	(X)	[b]536,313	(X)	[b]511,987
36796 11	Toggle, including miniature and subminiature*	18	(X)	[b]109,750	(X)	[b]104,343
36796 15	Slide, including rocker, miniature and subminiature*	16	(X)	881,702	(X)	869,094
36796 19	Rotary selector, including lever and jog-lever, miniature and subminiature*	23	(X)	86,333	(X)	[r]64,761
36796 21	Keyboard*	8	(X)	[a]48,889	(X)	[r]33,086
36796 25	Pushbutton*	24	(X)	[a]49,943	(X)	[r]47,132
36796 29	Snap-action*	6	(X)	13,225	(X)	[r]14,124
36796 31	Thumbwheel*	10				
36796 98	Other switches n.e.c. (including DIP)*	28	(X)	146,471	(X)	179,445
36797 --	Printed-circuit (wiring) boards, printed cables, and forms already etched, plated, etc., and ready for component insertion**	355	(X)	3,208,398	(X)	2,552,781
36797 02	Single-sided glass printed**	126	(X)	124,231		
36797 04	Double-sided glass printed**	167	(X)	912,516		
36797 06	Multilayer glass printed**	134	(X)	955,308	(X)	2,552,781
36797 12	Paper/mat/composite printed**	35	(X)	142,217		
36797 22	Flexible circuit printed**	60	(X)	394,929		
36797 97	Other rigid laminates**	114	(X)	679,197		
36798 --	Complex components (two or more components packaged and shipped as a single unit) except filters and other items listed elsewhere	104	(X)	3,006,821	(X)	[r]2,635,404
36798 21	Passive component packages or modules assembled from discrete components (RC networks, tone control packages, interstate coupling packages, etc.*	25	(X)	13,472	(X)	[r]13,371
36798 53	Active component packages or modules assembled from specially designed, discrete, miniature components designed only for use in modules or assembled from conventional components, including conventional computer cards, welded component packages, plug-in oscillators, tinker toy, and similar stacked water modules*	70	(X)	2,864,494	(X)	[r]2,483,651
36798 79	Components assemblies of discrete active and/or passive components	40	(X)	128,855	(X)	[r]138,382
36799 --	Electronic components and subassemblies n.e.c	(NA)	(X)	5,792,796	(X)	4,276,479
	Antenna systems, except structural towers sold separately:					
36799 07	Home antennae	18	3,523	47,316	6,042	72,155
36799 08	Auto antennae	14	7,010	31,048	10,166	51,412
36799 09	Antenna acessories, sold separately, including pedestals, drives, passive reflectors, rotators, and radomes	32	(X)	78,777	(X)	69,294
36799 11	Delay lines, including distributed constant, lumped constant, magnetro strictive, and ultrasonic	24	11,488	85,008	12,695	66,643
36799 13	Oscillators, except instrumentation and crystal types	30	1,565	179,414	1,138	126,069
	Magnetic recording and reproducing heads:					
36799 16	Audio	8				
36799 17	Video	5	6,542	266,276	4,639	[r]213,875
36799 18	Digital	12				
36799 19	Instrumentation	8				
	Static power supply converters for electronic applications, sold separately:					
36799 21	Regulated	76	3,858	531,168	2,932	436,380
36799 23	Unregulated	20	79	14,473	73	10,527
36799 25	Variable frequency	2				
36799 29	Other (a.c., d.c., converters and inverters, klystron, vibrators, etc.)	30	(X)	182,345	(X)	139,724
36799 14	Rectifiers, electronic, except solid state	4				
36799 31	Electronic cable harness assemblies*	111	(X)	346,408	(X)	[r]317,089
36799 33	Cryogenic cooling devices (cryostats, etc.) for infrared detectors, masers	3	(X)	68,561	(X)	51,649
36799 53	Magnetic bubble memories*	3	(X)	[b]35,391	(X)	[r]33,944
36799 51	Liquid crystal displays and other liquid devices	10	(X)	[a]106,207	(X)	86,430
36799 55	Magnetic cores*	20				
	Ferrite devices other than microwave:					
36799 41	Hard ferrites for permanent magnets	2	(X)	100,855	(X)	79,253
36799 43	Soft ferrites for transformers, inductors, deflection yokes, slugs for TV tuners, and fractional HP motors	8				
36799 45	Square-loop ferrites for memory cores for computers*	-	-	-	-	-
36799 57	Electron tube parts, except glass blanks, including bases, getters, cathodes, headers, guns, etc	24	(X)	119,658	(X)	100,716
	Electronic parts n.e.c. and specialized electronic hardware:					
	Sockets for electronic component insertion:					
36799 61	Tube sockets*	7	(X)	7,985	(X)	7,338
36799 63	Relay sockets*	9	(X)	18,640	(X)	18,100
36799 65	Discrete semiconductor sockets*	4	(X)	89,640	(X)	79,701
36799 66	Integrated circuit sockets*	10	(X)	18,710	(X)	[r]13,594
36799 69	Other sockets, including sockets for crystals and switches, etc.*	8				
	Enclosures for electronic equipment:					
36799 71	Metal enclosures, assembled (welded, etc.)	23	(X)	27,328	(X)	30,152
36799 73	Metal enclosures, modular assembled, including card insertion, rack and panel, etc	21	(X)	32,681	(X)	34,172
36799 79	Other enclosures n.e.c	7	(X)	14,570	(X)	4,218
36799 98	All other electronic parts n.e.c. and specialized electronic hardware n.e.c.*	198	(X)	3,390,337	(X)	2,234,044

See footnotes at end of table.

Table 3. QUANTITY AND VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS: 1984 AND 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Product code	Product description	Number of companies	1984		1983	
			Quantity	Value	Quantity	Value
36931 --	Irradiation equipment, including X-ray, beta-ray, gamma-ray, and nuclear (medical, dental, industrial, and scientific)	66	(X)	1,733,516	(X)	1,543,509
	Medical X-ray equipment:					
	Diagnostic:					
36931 02	Digital radiography equipment**	5	[2]509	88,496	[2]1,329	1,135,333
36931 03	Computerized axial tomography (CT or CAT Scan)**	5	[2]441	692,421		
36931 04	Other diagnostic X-ray equipment**	11	[2]3,142	424,920		
36931 05	Therapeutic	6	[2]587	79,926	[2]516	66,775
36931 09	Dental X-ray equipment	8	[2]6,110	14,124	[2]6,677	16,968
36931 13	Industrial and scientific X-ray equipment, excluding gamma and beta-ray equipment	11	[2 a]2,721	[a]58,869	[2]3,637	[a r]65,352
36931 17	X-ray equipment accessories	33	(X)	[a]132,045	(X)	98,529
36931 21	X-ray tubes (sold separately)	12	[2 b]61,282	162,738	[2 b]27,809	81,159
36931 25	Parts for X-ray equipment (sold separately)	12	(X)	26,140	(X)	22,001
36931 29	All other irradiation equipment, including gamma and beta-ray equipment	16	(X)	53,837	(X)	57,392
36933 --	Electromedical diagnostic, therapeutic, and patient monitoring equipment, except irradiation equipment	137	(X)	2,519,891	(X)	2,556,792
	Diagnostic:					
36933 11	Electrocardiograph (ECG)	14	[2 a]15,518	[a]95,020	[2 a]13,153	72,261
36933 13	Electroencephalograph (EEG)	2	[2]832	[b]19,321	[2]957	14,542
36933 15	Electromyograph (EMG)	6				
36933 17	Untrasonic scanning devices	13	[2 b]7,150	[b]332,917	[2 r]7,133	376,321
36933 21	Audiological equipment	7	(X)	11,534	(X)	10,217
36933 23	Endoscopic equipment (bronchoscope, cystoscope, proctosigmoidoscope, colonoscope, etc.)	5	[2]1,310	3,810	[2]994	2,984
36933 25	Respiratory analysis equipment	6	[2]1,736	13,716	[2]2,266	15,563
36933 27	All other diagnostic equipment	37	(X)	278,047	(X)	360,031
36933 18	Nuclear magnetic resonance imaging devices (NMR)**	3				
	Therapeutic:					
36933 31	Pacemakers	9	80	266,705	[r]78	[r]263,487
36933 33	Defibrillators	11	10,876	73,079	[2]13,998	[r]85,630
36933 35	Electrosurgical equipment	11	(X)	81,165	(X)	[r]63,613
36933 37	Diathermy apparatus (short wave and microwave)	6	(X)	46,476	(X)	72,597
36933 39	Dialyzers (includes machines and equipment)	5				
36933 43	Ultrasonic therapeutic equipment	9	(X)	25,658	(X)	[r]17,868
36933 45	All other therapeutic equipment	40	(X)	269,42[illegible]	(X)	274,406
	Patient monitoring:					
36933 51	Intensive care/coronary care units, including component modules such as temperature, blood pressure, and pulse	24	(X)	305,426	(X)	[r]298,065
36933 53	Perinatal monitoring	8	(X)	92,328	(X)	[r]70,931
36933 55	Respiratory monitoring	12				
36933 57	All other patient monitoring equipment	30	(X)	267,718	(X)	289,691
	Surgical support systems:					
36933 71	Heart-lung machines (excluding iron lungs)	4				
36933 73	Blood-flow systems	6	(X)	117,695	(X)	[r]103,668
36933 75	All other surgical support systems	14				
36933 91	Parts and accessories for diagnostic, therapeutic, monitoring, and surgical support systems (sold separately)	52	(X)	219,851	(X)	[r]164,917
36994 82	Automatic garage door openers, electronic	12	(X)	201,881	(X)	[r]186,935
	Electronic games:					
39992 22	Arcade and amusement center types (excent coin-operated)	12	(X)	288,691	(X)	[r]479,947
	Home electronic games:					
39447 12	For attachment to television receivet	4	(X)	133,965	(X)	479,172
39447 14	Other	4				
	Electronic research, development, test, and evaluation (receipts or billings, not reported as shipments of specific products):					
99980 42	Systems	100	(X)	1,186,681	(X)	[r]674,130
99980 43	Equipment and subassemblies	129	(X)	786,797	(X)	[r]553,829
99980 44	Component parts	86	(X)	433,894	(X)	[r]263,000
99980 46	Basic scientific electronic research	84	(X)	199,933	(X)	[r]177,086

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" for a discussion of estimation of missing reports): [a]15 to 25 percent of this item is estimated. [b]25 to 50 percent of this item is estimated.

*Similar products are collected on other Current Industrial Reports (see table 2). **New or revised for 1984. - Represents zero. (D) Data withheld to avoid disclosing figures for individual companies. (NA) Not available. N.e.c. Not elsewhere classified. [r]Revised by 5 percent or more from previously published figures. (X) Not applicable.

[1]Similar products are collected on the Current Industrial Report MA35R, Computers and Office and Accounting Machines, and the data should be added together to form the complete product classification.

[2]Quantity in number of units.

[3]For 1983, product codes 36741 23, 36741 27, 36741 29, 36741 33, and 36741 35 are combined with product code 36741 25.

[4]For 1983, product codes 36792 22, 36792 24, and 36792 26 are combined with product code 36792 79.

Table 4. VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAPH APPARATUS REPORTED IN ANNUAL MA36N COMPARED WITH THE 1982 CENSUS OF MANUFACTURES

(Millions of dollars)

Product code	Product description	MA36N		1982	
		1984[1]	1983[1]	MA36N	Census of Manufactures
3661	Telephone and telegraph apparatus	(X)	(X)	(X)	11,886.9
36611	Telephone switching and switchboard equipment (including military)	5,533.1	4,650.7	4,447.8	4,569.4
36612	Other telephone and telegraph (wire) apparatus, equipment, and components	8,147.9	6,791.8	6,979.9	7,078.9
36610 00	Telephone and telegraph apparatus n.s.k., typically for establishments with 20 employees or more	(2)	(2)	(2)	194.1
36610 02	Telephone and telegraph apparatus n.s.k., typically for establishments with less than 20 employees				44.5
3662	Radio and TV communication equipment	(X)	(X)	(X)	32,217.1
36621	Communication systems and equipment	8,585.8	7,557.2	6,854.0	6,995.7
36622	Broadcast studio and related electronic equipment	1,449.2	1,464.0	1,543.7	1,591.4
36624	Alarm systems	938.2	879.6	833.5	827.9
36625	Search and detection systems and navigation and guidance systems and equipment	21,972.4	19,981.6	17,733.4	18,092.3
36626	Vehicular and pedestrian traffic control systems and electric railway systems and attachments	473.5	481.0	413.1	418.3
36628	Intercommunication systems	181.6	176.1	162.5	163.8
36629	Electronic systems and equipment n.e.c.	3,338.2	3,120.1	3,111.2	3,021.9
36620 00	Radio and TV communication equipment n.s.k., typically for establishments with more than 20 employees	(2)	(2)	(2)	845.2
36620 02	Radio and TV communication equipment n.s.k., typically for establishmens with less than 20 employees				260.5
3671	Electron tubes, all types	(X)	(X)	(X)	1,854.2
36711	Electron tubes, receiving type	42.3	56.1	42.7	44.8
36712	Cathode ray picture tubes, including rebuilt	962.5	926.4	830 3	828.2
36713	Transmitting, industrial, and special-purpose electron tubes (except X-ray)	1,133.2	1,089.5	963.9	962.1
36710 00	Electron tubes, all types n.s.k., typically for establishments with more than 20 employees	(2)	(2)	(2)	10.3
36710 02	Electron tubes, all types n.s.k., typically for establishments with less than 20 employees				8.8
3674	Semiconductor and related devices	(X)	(X)	(X)	11,215.4
36741	Integrated microcircuits (semiconductor networks)	13,211.6	8,903.3	7,321.7	7,298.4
36742	Transistors	836.3	625.7	596.8	596.1
36743	Diodes and rectifiers	760.8	541.1	493.5	506.2
36749	Other semiconductor devices	2,454.0	2,411.2	2,316.7	2,334.8
36740 00	Semiconductor and related devices n.s.k., typically for establishments with 20 employees or more	(2)	(2)	(2)	364.4
36740 02	Semiconductor and related devices n.s.k., typically for establishments with less than 20 employees				115.5
3675	Capacitors for electronic applications	(X)	(X)	(X)	1,207.1
36750 00	Capicitors for electronic applications, typically for establishments with more than 20 employees	1,540.3	1,287.8	1,209.2	1,200.4
36750 02	Capacitors for electronic applications n.s.k., typically for establishments with less than 20 employees	(2)	(2)	(2)	6.7
3676	Resistors for electronic applications	(X)	(X)	(X)	758.3
36760 00	Resistors for electronic applications, typically for establishments with 20 employees or more	916.4	763.4	725.0	756.1
36760 02	Resistors for electronic applications n.s.k., typically for establishments with less than 20 employees	(2)	(2)	(2)	2.2
3677	Coils, transformers, reactors, and chokes for electronic applications	(X)	(X)	(X)	924.6
36770 00	Coils, transformers, reactors, and chokes for electronic applications, typically for establishments with 20 or more employees	1,147.8	965.7	842.1	898.1
36770 02	Coils, transformers, reactors, and chokes for electronic applications n.s.k. typically for establishments with less than 20 employees	(2)	(2)	(2)	26.5
3678	Electronic connectors	(X)	(X)	(X)	2,353.3
36781	Coaxial (RF) connectors	223.8	211.2	214.4	223.3
36782	Cylindrical connectors	499.5	414.7	387.6	411.7
36783	Rack and panel connectors	441.2	420.1	385.2	401.2
36784	Printed circuit connectors	725.1	598.0	444.4	464.4
36785	Parts for connectors	1,285.1	942.0	716.6	740.0
36780 00	Electronic connectors n.s.k., typically for establishments with 20 employees or more	(2)	(2)	(2)	101.2
36780 02	Electronic connectors n.s.k., typically for establishments with less than 20 employees				11.9
3679	Electronic components n.e.c.	(X)	(X)	(X)	13,845.6
36791	Filters, except microwave and piezoelectric devices	489.0	423.4	408.4	429.8
36792[3]	Magnetic recording tape	1,892.9	1,163.1	963.5	953.8
36793	Microwave components and devices, except antennae, tubes, and semi-conductors	876.4	761.5	766.4	794.5

See footnotes at end of table.

Table 4. VALUE OF SHIPMENTS OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS, INCLUDING TELEPHONE AND TELEGRAM APPARATUS REPORTED IN ANNUAL MA36N COMPARED WITH THE 1982 CENSUS OF MANUFACTURES AND THE 1981 ANNUAL SURVEY OF MANUFACTURES--Continued

(Millions of dollars)

Product code	Product description	MA36N		1982	
		1984[1]	1983[1]	MA36N	Census of Manufactures
	Electronic components n.e.c.--Continued.				
36795	Transducers, electrical/electronic input or output, n.e.c.	453.0	404.5	363.1	357.0
36796	Switches, mechanical types for electronic circuitry	536.3	512.0	446.1	468.6
36797	Printed circuit boards	3,208.4	2,552.8	2,146.5	2,288.9
36798	Complex components	3,006.8	2,635.4	2,502.0	2,655.9
36799	All other electronic components n.e.c.	5,792.8	4,276.5	3,973.4	4,075.8
36790 00	Electronic components n.e.c. n.s.k., typically for establishments with 20 employees or more	(2)	(2)	(2)	1,146.6
36790 02	Electronic components n.e.c. n.s.k., typically for establishments with less than 20 employees				369.4
3693	X-ray, electromedical, and electrotherapeutic apparatus	(X)	(X)	(X)	3,834.2
36931	Irradiation equipment	1,733.5	1,543.5	1,342.2	1,355.9
36933	Other electromedical equipment	2,519.9	2,556.8	2,419.1	2,433.9
36930 00	X-ray and electromedical equipment n.s.k., typically for establishments with more than 5 employees	(2)	(2)	(2)	17.9
36930 02	X-ray and electromedical equipment n.s.k., typically for establishments with less than 5 employees				26.5
36994 pt.	Automatic garage door openers, electronic	201.9	186.9	137.3	146.3
39447 pt.	Electronic games, home electronic type	134.0	479.2	1,279.2	1,347.8
39992 pt.	Electronic games, arcade and amusement center type	288.7	479.9	919.9	927.5

Note: In the 1982 Census of Manufactures, shipments data for establishments of small companies (typically those with fewer than 20 employees for SIC 3661 and 3693, fewer than 20 employees for SIC 3662 and 3671, fewer than 20 employees for SIC 3674, 3675, 3676, 3677, 3678, and 3679) were estimated from administrative records data rather than collected on census questionnaires. These shipments are included in product codes 36610 02, 36620 02, 36710 02, 36740 02, 36750 02, 36760 02, 36770 02, 36780 02, 36790 02, and 36930 02. Products not adequately identified by detail product were coded to the appropriate industry (four-digits) followed by "000."

N.e.c. Not elsewhere classified. N.s.k. Not specified by kind. (X) Not applicable.

[1]Data from the 1983 and 1984 annual survey of manufactures will be released at a later date.

[2]Detail data available only for the census of manufactures. A substantial portion of these data are derived from administrative records. See note above.

[3]The MA36N data includes data from the Current Industrial Report MA35R, Computers and Office and Accounting Machines, to complete the total product classification.

Table 5A. SHIPMENTS, IMPORTS, EXPORTS, AND APPARENT CONSUMPTION OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS: 1984

(Value in thousands of dollars)

Product code	Product description	Manufacturers' shipments value, f.o.b. plant	Exports of domestic merchandise		Percent exports to manufacturers' shipments	Imports for consumption, value in foreign country[1 4]	Apparent consumption value[5]	Percent imports to apparent consumption
			Value at port[1 2]	Estimated producers' value[3]				
36611 --	Telephone switching and switchboard apparatus..	5,533,142	399,234	390,690	7	612,833	5,755,285	11
36612 --	Other telephone and telegraph equipment.....	8,147,949	378,017	369,927	5	1,387,641	9,165,663	15
36621 --	Communication systems and equipment (excluding broadcast).....	8,585,800	1,160,620	1,135,783	13	1,074,244	8,524,261	13
36622 --	Broadcast, studio, and related electronic equipment.....	1,449,234	434,401	425,105	29	791,663	1,815,792	44
36624 --	Alarm systems.....	938,237	127,895	125,158	13	168,687	981,766	17
36625 --	Search and detection systems and navigation and guidance systems and equipment.....	21,972,420	780,317	763,618	3	191,248	21,400,050	1
36626 --	Vehicular and pedestrian traffic control systems and electric railway systems and attachments.....	473,476	65,888	64,478	14	(NA)	(NA)	(NA)
36628 --	Intercommunication systems.....	181,581	(NA)	(NA)	(NA)	8,214	(NA)	(NA)
36629 --	Electronic systems and equipment n.e.c.....	3,338,175	190,748	186,666	6	479,723	3,631,232	13
36712 --	Cathode ray picture tubes, including rebuilt...	962,546	33,007	31,301	3	73,827	1,005,072	7
36711 --	Electronic tubes, receiving type.....	42,315	9,128	8,656	20	98,404	132,063	75
36713 --	Transmittal, industrial, and special-purpose electron tubes (except X-ray).....	1,133,214	199,053	188,762	17	207,176	1,151,628	18
36741 --	Integrated microcircuits, (semiconductor network).....	13,211,599	835,344	792,157	6	3,911,608	16,331,050	24
36742 --	Transistors.....	836,253	118,844	112,700	13	349,936	1,073,489	33
36743 --	Diodes and rectifiers.....	760,752	146,259	138,697	18	305,182	927,237	33
36749 --	Other semiconductor devices.....	2,453,996	2,988,360	2,833,862	(S)	768,983	389,117	(S)
36750 --	Capacitors for electronic applications.....	1,540,318	270,451	256,554	17	393,998	1,677,762	23
36760 --	Resistors, for electronic application.....	916,434	124,041	117,628	13	270,497	1,069,303	25
36770 --	Coils, transformers, reactors, and chokes for electronic applications.....	1,147,843	69,404	65,816	6	77,152	1,159,179	7
36781 --	Coaxial (RF) connectors.....	223,776	31,037	29,432	13	8,962	203,306	4
36782 --	Cylindrical connectors.....	499,480	37,375	35,443	7	34,471	498,508	7
36783 --	Rack and panel connectors.....	441,179	65,499	62,113	14	17,576	396,642	4
36784 --	Printed circuit connectors.....	725,072	32,128	30,467	4	17,095	711,700	2
36785 --	Parts for connectors.....	1,285,114	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36791 --	Filters, except microwave and piezoelectric devices.....	488,991	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36792 --	Magnetic recording tape.....	1,545,029	229,660	217,787	14	694,201	2,021,443	34
36793 --	Microwave components and devices.....	876,435	65,694	62,298	7	17,288	831,425	2
36795 --	Transducers, electrical/electronic input or output n.e.c.....	452,989	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36796 --	Switches, mechanical types for electronic circuitry.....	536,313	29,866	28,322	5	90,630	598,621	15
36797 --	Printed circuit boards.....	3,208,398	277,335	262,997	8	277,197	3,222,598	9
36798 --	Complex components.....	3,006,821	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36799 --	All other electronic components n.e.c.....	5,792,796	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36931 --	X-ray and other irradiation equipment.....	1,733,516	275,878	226,882	13	486,380	1,993,014	24
36933 --	Electromedical equipment.....	2,519,891	823,241	677,033	27	100,709	2,243,567	18

See footnotes at end of table 5B.

Table 5B. SHIPMENTS, IMPORTS, EXPORTS, AND APPARENT CONSUMPTION OF SELECTED ELECTRONIC AND ASSOCIATED PRODUCTS: 1981

(Value in thousands of dollars)

Product code	Product description	Manufacturers' shipments value, f.o.b. plant	Exports of domestic merchandise		Percent exports to manufacturers' shipments	Imports for consumption, value in foreign country[1 4]	Apparent consumption, value[5]	Percent imports to apparent consumption
			Value at port[1 2]	Estimated producers' value[3]				
36611 --	Telephone switching and switchboard apparatus..	4,650,697	439,906	430,492	9	305,659	4,525,864	7
36612 --	Other telephone and telegraph equipment.....	6,791,801	350,054	342,563	5	1,007,323	7,456,561	14
36621 --	Communication systems and equipment (excluding broadcast).....	7,557,178	1,109,030	1,085,297	14	725,131	7,197,012	10
36622 --	Broadcast, studio, and related electronic equipment.....	1,464,011	157,037	153,676	10	665,446	1,975,781	34
36624 --	Alarm systems.....	879,625	118,572	116,035	13	111,966	875,556	13
36625 --	Search and detection systems and navigation and guidance systems and equipment.....	19,981,638	674,943	660,499	3	129,290	19,450,429	1
36626 --	Vehicular and pedestrian traffic control systems and electric railway systems and attachments.....	480,958	97,202	95,122	20	(NA)	(NA)	(NA)
36628 --	Intercommunication systems.....	176,130	(NA)	(NA)	(NA)	7,216	(NA)	(NA)
36629 --	Electronic systems and equipment n.e.c.....	3,120,056	200,249	195,964	6	379,125	3,303,217	11
36712 --	Cathode ray picture tubes, including rebuilt...	926,424	30,466	28,891	3	52,868	950,401	6
36711 --	Electronic tubes, receiving type.....	56,118	11,612	11,012	20	10,015	55,121	18
36713 --	Transmittal, industrial, and special-purpose electron tubes (except X-ray).....	1,089,502	285,724	270,952	25	108,795	927,345	12
36741 --	Integrated microcircuits, (semiconductor network).....	8,903,267	1,873,248	1,776,401	20	2,612,899	9,739,765	27
36742 --	Transistors.....	625,720	97,897	92,836	15	262,157	795,041	33
36743 --	Diodes and rectifiers.....	541,097	119,304	113,136	21	158,483	586,444	27
36749 --	Other semiconductor devices.....	2,411,204	2,425,782	2,300,369	95	322,328	433,163	74
36750 --	Capacitors for electronic applications.....	1,287,830	216,423	205,234	16	325,334	1,407,930	23
36760 --	Resistors, for electronic application.....	763,385	96,788	91,784	12	197,404	869,005	23
36770 --	Coils, transformers, reactors, and chokes for electronic applications.....	965,678	61,311	58,141	6	54,870	962,407	6
36781 --	Coaxial (RF) connectors.....	211,183	24,066	22,822	11	7,094	195,455	4
36782 --	Cylindrical connectors.....	414,690	29,124	27,618	7	28,510	415,582	7
36783 --	Rack and panel connectors.....	420,066	53,794	51,013	12	8,817	377,870	2
36784 --	Printed circuit connectors.....	598,022	27,109	25,707	4	17,546	589,861	3
36785 --	Parts for connectors.....	942,006	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36791 --	Filters, except microwave and piezoelectric devices.....	423,350	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36792 --	Magnetic recording tape.....	959,178	255,549	242,337	25	520,590	1,237,431	42
36793 --	Microwave components and devices.....	761,458	56,821	53,883	7	15,281	722,856	2
36795 --	Transducers, electrical/electronic input or output n.e.c.....	404,526	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36796 --	Switches, mechanical types for electronic circuitry.....	511,897	22,204	21,056	4	79,843	570,774	14
36797 --	Printed circuit boards.....	2,552,781	189,335	179,546	7	186,660	2,559,895	7
36798 --	Complex components.....	2,635,404	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36799 --	All other electronic components n.e.c.....	4,276,479	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
36931 --	X-ray and other irradiation equipment.....	1,543,509	302,327	248,634	16	484,771	1,779,646	27
36933 --	Electromedical equipment.....	2,556,792	783,270	644,161	25	224,407	2,137,038	11

(NA) Not available. N.e.c. Not elsewhere classified. (S) Suppressed. Data did not meet publication standards of the Bureau of the Census.

[1] See tables 8A and 8B for comparison of SIC-based product codes, Schedule B export numbers, and TSUSA import numbers.

[2] Source: Bureau of the Census report EM 546, U.S. Exports.

[3] These values were derived by use of adjustment factors to exclude freight, insurance, and other charges incurred in moving goods to the port of export. This adjustment is made to convert the values to an approximation of the producers' value of exported goods. Current adjustment factors are based on data for 1981 which are published in Origin of Exports of Manufactured Products, M81(AS)-5, appendix B. The adjustment factor for products corresponding to industry group 366, communication equipment, is 0.9786. The adjustment factor for products corresponding to industry group 367, electronic components, is 0.9483. The adjustment factor for products corresponding to industry group 369, miscellaneous electrical equipment, is 0.8224.

[4] Source: Bureau of the Census report IM 145-X, U.S. Imports for Consumption and General Imports.

[5] Apparent consumption is derived by subtracting the estimated producers' price of exports from the sum of manufacturers' shipments and imports for consumption.

Table 6A. EXPORT SHIPMENTS OF ELECTRONIC PRODUCTS: 1984

(Quantity in units; value in thousands of dollars)

Export number	Product description	Quantity	Value
678.5007	Flight simulators and parts thereof	(NA)	117,070
682.0520	Transformers rated at less than 40 Va	2,580,350	25,615
682.6050	Rectifiers and rectifying apparatus	(NA)	88,968
682.6052	Coils and inductors	48,395,200	43,789
684.6210	Telephone switching and switchboard equipment and parts and components thereof	(NA)	399,234
684.6220	Telephone instruments	645,051	36,996
684.6240	Other telephone apparatus and instruments and parts thereof	(NA)	207,259
684.6420	Teleprinting teletypewriting machines	12,680	23,107
684.6440	Other telegraph apparatus and instruments and parts	(NA)	110,655
684.7030	Audio-frequency electric amplifiers and preamplifiers	325,283	33,474
684.7040	Other sound amplification equipment	(NA)	23,915
685.1050	Television cameras	18,026	18,555
685.1060	Parts of television cameras	(NA)	20,260
685.2001	Unfinished or unassembled television receivers	3,555,621	95,539
685.2052	Tuners for television receivers	2,426,147	10,200
685.2061	Receiving antennas for televisions receivers	342,107	10,381
685.2071	Deflection yokes, convergence assemblies, flybacks, focus coils, degaussing coils, and parts	(NA)	33,770
685.2075	Converters, preamplifiers, distribution amplifiers, directional couplers, and couplers, designed for cable television applications	(NA)	62,122
685.2085	Other television apparatus	(NA)	275,029
685.2630	Radio receivers, other than entertainment broadcast bands, not over 30 MHz	53,069	5,535
685.2642	Radio receivers, other than entertainment broadcast bands, over 30 MHz but not over 1,000	95,145	14,944
685.2650	Radio receivers, other than entertainment broadcast bands, over 400 MHz but not over 1,000 MHz	6,759	2,177
685.2660	Radio receivers, other than entertainment broadcast bands, over 1,000 MHz	7,788	13,038
685.2705	Citizens band transceivers	20,700	2,754
685.2710	Transceivers, other than citizens band, handheld	53,877	30,039
685.2715	Transceivers, other than citizens band, not handheld, for frequencies of not over 30 MHz	20,154	34,805
685.2720	Transceivers, other than citizens band, not handheld, for frequencies over 30 MHz but not over 400 Mhz	45,302	87,233
685.2725	Transceivers, other than citizens band, not handheld, for frequencies over 400 MHz	7,672	82,314
685.2730	Antennas, citizens band	41,669	1,931
685.2735	Antennas, satellite communications	17,842	23,051
685.2740	Antennas, other than citizens band, satellite communications, or television receiving	458,726	62,058
685.2745	Transmitters capable of sending signals on frequencies of not over 30 MHz	7,947	6,976
685.2750	Transmitters capable of sending signals on frequencies over 30 MHz but not over 400 MHz	6,118	13,048
685.2755	Transmitters capable of sending signals on frequencies over 400 MHz but not over 1,000 MHz	1,001	6,298
685.2760	Transmitters capable of sending signals on frequencies of over 1,000 MHz	731	8,269
685.2765	Other radiotelegraphic and radiotelephonic transmission and reception apparatus	(NA)	755,769
685.4050	Video recorders, color	6,044	53,170
685.4058	Video recorders, black and white	1,644	5,265
685.6021	Radar apparatus, designed exclusively for boat or ship installation	3,988	40,051
685.6026	Other radar apparatus, other than designed for boat or ship installation	14,940	148,629
685.6035	Parts for radar apparatus	(NA)	290,708
685.6043	Radio reception apparatus, designed exclusively for aircraft installation	16,782	70,096
685.6045	Radio reception apparatus, other than designed exclusively for aircraft installations	5,453	19,089
685.6052	Other radio navigational aid apparatus	9,792	39,396
685.6055	Parts for radio navigational apparatus	(NA)	133,623
685.6060	Radio remote control apparatus, and parts thereof	(NA)	38,725
685.7040	Traffic control devices and other signaling equipment for railways	(NA)	36,551
685.7045	Traffic control devices and other signaling equipment for roads	(NA)	8,017
685.7050	Other traffic control devices and other signaling equipment	(NA)	21,320
685.7060	Indicator panels displaying multiple characters of other than semiconductor LEDS	(NA)	2,856
685.7065	Indicator panels displaying characters of other than semiconductor LEDS		20,617
685.7072	Burglar alarms	123,419	26,292
685.7074	Smoke detectors	766,213	12,633
685.7077	Fire alarms, except smoke detectors	(NA)	68,999
685.7095	Other sound or visual signaling equipment	(NA)	19,971
685.8005	Electrical capacitors, fixed aluminum electrolytic	17,178,132	14,326
685.8010	Electrical capacitors, fixed tantalum electrolytic	131,543,020	55,477
685.8015	Electricals capacitors, fixed ceramic	106,208,955	113,364
685.8025	Electricals capacitors, fixed paper or film	35,527,741	18,630
685.8030	Electricals capacitors, fixed mica	10,319,289	3,657
685.8035	Other fixed electrical capacitors	130,253,944	30,587
685.8040	Electrical capacitors, variable	33,537,856	34,500
685.9019	Switches, rotary, rated at not over 5 amps	11,685,770	19,062
685.9023	Switches, push-button, rated at not over 5 amps	4,273,019	10,804
685.9048	Connectors, coaxial	14,974,015	31,037
685.9051	Connectors, cylindrical, multicontact, rated at less than 120 V and 20 A	15,728,664	37,375
685.9052	Connectors, rack and panel	91,203,005	65,499
685.9053	Connectors, printed circuit	19,269,020	32,128
685.9054	Other electrical connectors	1,236,758,422	217,397
685.9055	Printed circuit boards	96,230,714	277,335

See footnotes at end of table 6B.

Table 6A. EXPORT SHIPMENTS OF ELECTRONIC PRODUCTS: 1984--Continued

(Quantity in units; value in thousands of dollars)

Export number	Product description	Quantity	Value
686.1030	Resistors, wire-wound, variable, including potentiometers	19,634,579	21,286
686.1035	Resistors, not wire-wound, variable, including potentiometers	108,140,846	37,906
686.1047	Resistors, fixed, composition, including carbon	172,860,279	12,899
686.1050	Resistors, fixed, film	345,095,444	24,464
686.1053	Resistors, fixed wire-wound	60,059,605	9,437
686.1057	Resistors, fixed, other than composition, film, or wire-wound	96,026,917	18,049
686.1060	Parts for resistors	(NA)	61,365
687.3530	Television picture tubes, color, having a viewable diagonal of 22 inches or less	156,964	12,159
687.3560	Television picture tubes, color, having a viewable diagonal of more than 22 inches	190,068	20,219
687.4000	Television picture tubes, other than color	20,039	629
687.6006	Cathode ray storeage tubes	12,086	8,783
687.6007	Other cathode ray tubes	420,621	49,305
687.6010	Electronic receiving tubes	2,333,520	9,128
687.6011	Gas and vapor electron tubes	104,135	10,133
687.6013	Diodes, triodes, and tetrodes	1,507,736	30,285
687.6015	Microwave tubes, magnetron	6,504	11,379
687.6017	Microwave tubes, klystron	6,162	8,099
687.6019	Other microwave tubes, including traveling wave	2,534	46,216
687.6021	Light-sensing tubes	31,665	16,802
687.6023	Other electronic tubes	747,570	18,062
687.6025	Transistors, with a dissipation rating of less than 1 watt	354,634,252	64,763
687.6027	Transistors, with a dissipation rating of 1 watt or more	54,061,411	54,081
687.6031	Integrated circuits, monolithic, linear, analog	377,255,118	275,243
687.6035	Integrated circuits, bipolar, transistor-transistor logic	109,724,812	93,705
687.6038	Integrated circuits, bipolar, emitter coupled logic	9,527,753	11,809
687.6040	Integrated circuits, bipolar, other types, including DTL	30,033,432	53,197
687.6045	Integrated circuits, other than bipolar, metal oxide silicon	76,785,480	159,983
687.6048	Integrated circuits, other than bipolar, other than metal oxide silicon	184,905,839	126,577
687.6053	Integrated circuits, hybrid	31,643,098	114,830
687.6055	Diodes and rectifiers, photosensitive, solar cells	927,387	7,006
687.6057	Other photosensitive diodes and rectifiers	76,126,894	23,131
687.6059	Diodes and rectifiers, zener	286,669,478	23,352
687.6061	Diodes and rectifiers, microwave	5,062,651	23,204
687.6062	Diodes and rectifiers, tyristors	21,843,540	11,418
687.6066	Other diodes and rectifiers, with a maximum current of 0.5 amperes or less	194,072,918	16,476
687.6067	Other diodes and rectifiers, with a maximum current of more than 0.5 amperes	90,944,590	48,678
687.6068	Mounted piezoelectric crystals	(NA)	21,777
687.6070	Other semiconductor devices	20,686,096	36,752
687.6082	Parts for cathode ray tubes	(NA)	54,150
687.6084	Parts for electronic tubes, except cathode ray	(NA)	23,483
687.6087	Chips, dice, and wafers	(NA)	2,929,831
687.6089	Other parts of transistors and related electronic crystal components	(NA)	683,084
688.4020	Particle accelerators, and parts thereof	(NA)	29,708
688.4030	Parts of capacitors	(NA)	64,534
709.1605	Electromedical pacemakers	203,460	45,868
709.1610	Electromedical diathermy units	1,022	731
709.1615	Electromedical ultrasonic therapeutic devices	99,998	13,455
709.1620	Other electromedical therapeutic apparatus, including surgical support apparatus	(NA)	132,094
709.1655	Electrocardiographs	7,630	13,390
709.1660	Electroencephalographs	389	1,784
709.1665	Complete patient monitoring systems incorporating component modules for monitoring functions such as temperature, blood pressure, and pulse	(NA)	63,626
709.1670	Other electrical apparatus, except therapeutic	(NA)	366,239
709.1690	Parts for electromedical apparatus	(NA)	186,054
709.6120	X-ray tubes	18,690	18,398
709.6140	Parts for X-ray tubes	(NA)	3,576
709.6320	Other X-ray apparatus, for medical or dental use	(NA)	178,199
709.6340	Other X-ray apparatus, other than for medical or dental use	(NA)	36,857
709.6620	Apparatus based on the use of radiations, for medical or dental use, and parts thereof	(NA)	38,848
724.4505	Magnetic tape for audio recording.....(quantity in 1,000 sq. ft.)..	2,541,947	45,332
724.4535	Magnetic tape for video or video and audio recording.....(quantity in 1,000 sq. ft.)..	5,082,435	106,461
724.4565	Magnetic tape suitable for use with computers.....(quantity in 1,000 sq. ft.)..	9,370,451	77,867
724.4585	Other magnetic recording media	(NA)	53,457

See footnotes at end of table 6B.

Table 6B. EXPORT SHIPMENTS OF ELECTRONIC PRODUCTS: 1983

(Quantity in units; value in thousands of dollars)

Export number	Product description	Quantity	Value
678.5007	Flight simulators and parts thereof	(NA)	124,147
682.0520	Transformers rated at less than 40 Va	2,567,302	33,510
682.6050	Rectifiers and rectifying apparatus	(NA)	88,930
682.6052	Coils and inductors	31,809,014	37,801
684.6210	Telephone switching and switchboard equipment and parts and components thereof	(NA)	439,906
684.6220	Telephone instruments	334,084	27,714
684.6240	Other telephone apparatus and instruments and parts thereof	(NA)	203,258
684.6420	Teleprinting teletypewriting machines	(NA)	28,165
684.6440	Other telegraph apparatus and instruments and parts	(NA)	90,917
684.7030	Audio-frequency electric amplifiers and preamplifiers	462,843	36,666
684.7040	Other sound amplification equipment	(NA)	22,295
685.1050	Television cameras	18,202	23,801
685.1060	Parts of television cameras	(NA)	20,974
685.2001	Unfinished or unassembled television receivers	3,173,156	96,331
685.2052	Tuners for television receivers	1,651,759	9,383
685.2061	Receiving antennas for televisions receivers	466,049	11,494
685.2071	Deflection yokes, convergence assemblies, flybacks, focus coils, degaussing coils, and parts	(NA)	34,604
685.2075	Converters, preamplifiers, distribution amplifiers, directional couplers, and couplers, designed for cable television applications	(NA)	60,324
		(NA)	245,720
685.2085	Other television apparatus	47,461	3,076
685.2630	Radio receivers, other than entertainment broadcast bands, not over 30 MHz	86,584	13,914
685.2642	Radio receivers, other than entertainment broadcast bands, over 30 MHz but not over 1,000	12,158	2,779
685.2650	Radio receivers, other than entertainment broadcast bands, over 400 MHz but not over 1,000 MHz	8,187	7,093
685.2660	Radio receivers, other than entertainment broadcast bands, over 1,000 MHz	13,890	2,081
685.2705	Citizens band transceivers	48,254	29,415
685.2710	Transceivers, other than citizens band, handheld	23,100	49,679
685.2715	Transceivers, other than citizens band, not handheld, for frequencies of not over 30 MHz	47,518	121,542
685.2720	Transceivers, other than citizens band, not handheld, for frequencies over 30 MHz but not over 400 Mhz	11,094	50,273
685.2725	Transceivers, other than citizens band, not handheld, for frequencies over 400 MHz	61,281	2,465
685.2730	Antennas, citizens band	14,260	28,397
685.2735	Antennas, satellite communications	399383	50,998
685.2740	Antennas, other than citizens band, satellite communications, or television receiving	12,668	7,948
685.2745	Transmitters capable of sending signals on frequencies of not over 30 MHz	7,414	20,124
685.2750	Transmitters capable of sending signals on frequencies over 30 MHz but not over 400 MHz	1,392	10,838
685.2755	Transmitters capable of sending signals on frequencies over 400 MHz but not over 1,000 MHz	790	15,333
685.2760	Transmitters capable of sending signals on frequencies of over 1,000 MHz	(NA)	681,581
685.2765	Other radiotelegraphic and radiotelephonic transmission and reception apparatus	5,593	45,632
685.4050	Video recorders, color	2,221	6,306
685.4058	Video recorders, black and white	4,097	29,889
685.6021	Radar apparatus, designed exclusively for boat or ship installation	10,013	109,164
685.6026	Other radar apparatus, other than designed for boat or ship installation	(NA)	289,374
685.6035	Parts for radar apparatus	14,813	61,449
685.6043	Radio reception apparatus, designed exclusively for aircraft installation	7,395	24,215
685.6045	Radio reception apparatus, other than designed exclusively for aircraft installations	10,987	37,154
685.6052	Other radio navigational aid apparatus	(NA)	127,315
685.6055	Parts for radio navigational apparatus	(NA)	33,537
685.6060	Radio remote control apparatus, and parts thereof	(NA)	53,647
685.7040	Traffic control devices and other signaling equipment for railways	(NA)	17,909
685.7045	Traffic control devices and other signaling equipment for roads	(NA)	25,646
685.7050	Other traffic control devices and other signaling equipment	(NA)	2,541
685.7060	Indicator panels displaying multiple characters of other than semiconductor LEDS	(NA)	20,698
685.7065	Indicator panels displaying characters of other than semiconductor LEDS	146,286	29,936
685.7072	Burglar alarms	559,265	13,831
685.7074	Smoke detectors	(NA)	47,613
685.7077	Fire alarms, except smoke detectors	(NA)	27,192
685.7095	Other sound or visual signaling equipment	12,998,167	11,972
685.8005	Electrical capacitors, fixed aluminum electrolytic	116,639,938	53,716
685.8010	Electrical capacitors, fixed tantalum electrolytic	1,007,946,755	83,966
685.8015	Electricals capacitors, fixed ceramic	34,494,438	15,027
685.8025	Electricals capacitors, fixed paper or film	6,495,395	2,631
685.8030	Electricals capacitors, fixed mica	116,567,042	27,704
685.8035	Other fixed electrical capacitors	60,982,657	31,407
685.8040	Electrical capacitors, variable	7,821,564	14,390
685.9019	Switches, rotary, rated at not over 5 amps	4,461,490	7,814
685.9023	Switches, push-button, rated at not over 5 amps	1,329,239	20,129
685.9036	Relays, with contacts rated at 10 a and over	11,381,987	24,066
685.9048	Connectors, coaxial	9,572,709	29,124
685.9051	Connectors, cylindrical, multicontact, rated at less than 120 V and 20 A	97,285,022	53,794
685.9052	Connectors, rack and panel	22,129,304	27,109
685.9053	Connectors, printed circuit	744,231,810	160,834
685.9054	Other electrical connectors	79,923,719	189,335
685.9055	Printed circuit boards		

See footnotes at end of table.

Table 6B. EXPORT SHIPMENTS OF ELECTRONIC PRODUCTS: 1983--Continued

(Quantity in units; value in thousands of dollars)

Export number	Product description	Quantity	Value
686.1030	Resistors, wire-wound, variable, including potentiometers	14,525,340	18,062
686.1035	Resistors, not wire-wound, variable, including potentiometers	76,001,595	32,909
686.1047	Resistors, fixed, composition, including carbon	81,753,921	8,773
686.1050	Resistors, fixed, film	151,484,373	15,672
686.1053	Resistors, fixed wire-wound	45,712,882	8,434
686.1057	Resistors, fixed, other than composition, film, or wire-wound	52,814,859	12,938
686.1060	Parts for resistors	(NA)	52,569
687.3530	Televison picture tubes, color, having a viewable diagonal of 22 inches or less	176,281	14,737
687.3560	Televison picture tubes, color, having a viewable diagonal of more than 22 inches	140,417	14,851
687.4000	Television picture tubes, other than color	10,284	877
687.6006	Cathode ray storeage tubes	11,461	8,635
687.6007	Other cathode ray tubes	431,191	41,156
687.6010	Electronic receiving tubes	2,775,783	11,612
687.6011	Gas and vapor electron tubes	75,067	8,079
687.6013	Diodes, triodes, and tetrodes	1,443,459	29,125
687.6015	Microwave tubes, magnetron	4,817	12,007
687.6017	Microwave tubes, klystron	9,179	9,519
687.6019	Other microwave tubes, including traveling wave	4,045	35,295
687.6021	Light-sensing tubes	24,166	14,070
687.6023	Other electronic tubes	911,505	19,838
687.6025	Transistors, with a dissipation rating of less than 1 watt	275,650,441	67,346
687.6027	Transistors, with a dissipation rating of 1 watt or more	20,869,412	30,551
687.6031	Integrated circuits, monolithic, linear, analog	166,053,715	170,213
687.6035	Integrated circuits, bipolar, transistor-transistor logic	81,988,980	68,813
687.6038	Integrated circuits, bipolar, emitter coupled logic	11,324,906	8,019
687.6040	Integrated circuits, bipolar, other types, including DTL	24,741,732	31,396
687.6045	Integrated circuits, other than bipolar, metal oxide silicon	52,069,025	102,382
687.6048	Integrated circuits, other than bipolar, other than metal oxide silicon	102,733,209	138,814
687.6053	Integrated circuits, hybrid	22,549,691	103,611
687.6055	Diodes and rectifiers, photosensitive, solar cells	1,451,465	8,935
687.6057	Other photosensitive diodes and rectifiers	53,398,865	18,230
687.6059	Diodes and rectifiers, zener	168,714,024	19,174
687.6061	Diodes and rectifiers, microwave	3,669,420	17,665
687.6062	Diodes and rectifiers, tyristors	14,347,560	11,227
687.6066	Other diodes and rectifiers, with a maximum current of 0.5 amperes or less	115,524,103	12,642
687.6067	Other diodes and rectifiers, with a maximum current of more than 0.5 amperes	66,638,736	40,366
687.6068	Mounted piezoelectric crystals	(NA)	13,829
687.6070	Other semiconductor devices	15,777,599	23,412
687.6082	Parts for cathode ray tubes	(NA)	40,303
687.6084	Parts for electronic tubes, except cathode ray	(NA)	22,919
687.6087	Chips, dice, and wafers	(NA)	2,388,541
687.6089	Other parts of transistors and related electronic crystal components	(NA)	687,962
688.4020	Particle accelerators, and parts thereof	(NA)	32,115
688.4030	Parts of capacitors	(NA)	51,238
709.1605	Electromedical pacemakers	185,323	47,206
709.1610	Electromedical diathermy units	1,406	815
709.1615	Electromedical ultrasonic therapeutic devices	62,822	9,231
709.1620	Other electromedical therapeutic apparatus, including surgical support apparatus	(NA)	104,080
709.1655	Electrocardiographs	9,070	13,514
709.1660	Electroencephalographs	403	1,568
709.1665	Complete patient monitoring systems incorporating component modules for monitoring functions such as temperature, blood pressure, and pulse	(NA)	95,176
709.1670	Other electrical apparatus, except therapeutic	(NA)	336,220
709.1690	Parts for electromedical apparatus	(NA)	175,460
709.6120	X-ray tubes	19,989	14,300
709.6140	Parts for X-ray tubes	(NA)	2,891
709.6320	Other X-ray apparatus, for medical or dental use	(NA)	206,542
709.6340	Other X-ray apparatus, other than for medical or dental use	(NA)	47,936
709.6620	Apparatus based on the use of radiations, for medical or dental use, and parts thereof	(NA)	30,658
724.4505	Magnetic tape for audio recording (quantity in 1,000 sq. ft.)	10,151,624	50,419
724.4535	Magnetic tape for video or video and audio recording (quantity in 1,000 sq. ft.)	2,574,292	138,352
724.4565	Magnetic tape suitable for use with computers (quantity in 1,000 sq. ft.)	9,096,646	66,778
724.4585	Other magnetic recording media	(NA)	51,739

(NA) Not available.

Source: Bureau of the Census report EM 546, U.S. Exports.

Table 7A. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1984

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
682.0520	Transformers, rated at less than 40 VA	75,560	77,152
684.6210	Telephone switching and switchboard apparatus	(NA)	612,833
684.6220	Telephone instruments	16,871	539,190
684.6230	Intercom systems	293	8,214
684.6240	Other telephonic apparatus and parts n.s.p.f	(NA)	520,915
684.6420	Teleprinting teletypewriting machines and parts	(NA)	156,528
684.6440	Telegraph apparatus and instruments n.e.s., and parts	(NA)	171,008
684.7030	Audio-frequency electric amplifiers	3,628	206,877
684.7050	Parts for loudspeakers, microphones, amplifiers, etc	(NA)	211,728
685.1015,1025	Television cameras, color	730	422,139
685.1040	Televisions cameras, except color	119	41,291
685.1060	Parts n.e.s. for television cameras	(NA)	67,449
685.1300	Television receivers, monochrome, complete, unassembled kits	6	286
685.1358	Television subassemblies, mono., receivers with picture tubes	(NA)	(NA)
685.1455	Television receivers, color, complete, unassembled kits	505	61,537
685.1456,1458	Television receivers, subassemblies, color, with picture tube, 17 inches and under	83	4,191
685.1460	Television receivers, subassemblies, color, with picture tube, 18 inches and over	41	3,450
685.1463	Television receivers, incomplete, color, with picture tube n.s.p.f	15	8,514
685.1564	Main PC board with special components for color TV with chassis frame	2,664	159,572
685.1566	Main PC board with special components for color TV without chassis frame	13,832	149,190
685.1600	Main PC board, color TV n.s.p.f	(NA)	467,294
685.1700	Tuners for television receivers	6,387	122,011
685.1876	Antennas for television receivers	8,855	13,558
685.1877	Deflect yokes, conn assembles, flyback, focus coil and parts, TV	23,811	139,487
685.1878	Other parts and subassemblies of TV receivers	(NA)	140,247
685.1910	Cable television apparatus, including converters, amplifiers, couples, etc	(NA)	120,725
685.1915	Antennas for TV other than parts of TV receiver	(NA)	2,631
685.1930,1950	Other television apparatus, and parts thereof	(NA)	126,976
685.2461	Radio receivers, solid state n.e.c	2,233	29,262
685.2471	Citizen's band radio receivers	59	3,618
685.2473	Other radio receivers, below 30 MHz signal reception	305	15,246
685.2474	Radio receivers, above 30 MHz up through 400 MHz signal reception	323	10,003
685.2476	Radio receivers, above 400 MHz up through 1,000 MHz signal reception	20	3,199
685.2485	Radio receivers over 1,000 MHz signal reception	1	139
685.2600	Low-power radiotelephonic transceivers, 49.82 to 49.90 MHz	4,521	33,271
685.2702	CB transceivers, AM or AM/FM combinations	51	2,169
685.2715	CB transceivers, except hand-held, a.c. only	1	82
685.2725	CB transceivers, except hand-held, d.c. only	1,075	40,618
685.2735	CB transceivers, except hand-held, other	75	4,629
685.2910	CB transceivers, hand-held, not over $7.50	39	203
685.2912	CB transceivers, hand-held, over $7.50	362	9,905
685.2940	Transceivers, other than CB, hand-held	177	17,268
685.2943	Transceivers, other than CB, other than hand-held	732	153,660
685.2950	Radio receivers, other than solid-state	9	1,203
685.2960	Antennas, CB	632	3,705
685.2962	Antennas, other than CB	9,745	56,402
685.2970	Radio transmitters	1,151	26,406
685.2976	Other radio apparatus and parts	(NA)	633,403
685.4055	Color video recording machines, other than cartridge or cassette	6,000	7,375
685.4058	Black and white video recording machines, all types	4,000	3,077
685.5085	Radio telecommunications equipment n.e.s	(NA)	6,468
685.5520	Radio receivers, Canadian article	49	10,874
685.5540	Radiotelegraphic and radio telephonic apparatus n.e.s., Canadian article	(NA)	5,421
685.6021	Radar apparatus, designed for boat or ship installation	9	17,655
685.6025	Radar apparatus, designed for other than boat or ship installation	1	6,246
685.6035	Parts for radar apparatus	(NA)	50,329
685.6041	Radio navigational aid apparatus, reception only	24	12,704
685.6050	Radio navigational aid apparatus, other than reception only	107	28,716
685.6055	Parts for radio navigational aid apparatus	(NA)	26,498
685.6060	Other radio navigational, radar, or radio remote control apparatus	(NA)	48,200
685.7002	Smoke detectors	5,247	31,671
685.7004	Other burglar and fire alarms	3,376	38,965
685.7080	Electric signaling devices n.s.p.f	(NA)	89,983
685.7100	Electric sound or visual signaling, Canadian article	(NA)	8,068
685.8001,8002,8004,	Fixed capacitors, aluminum electrolytic	1,394,909	103,169
685.8006,8007,8008	Fixed capacitors, tantalum electrolytic	222,537	33,664
685.8011,8012	Fixed capacitors, ceramic, single layer	1,631,772	47,824
685.8013,8016	Fixed capacitors, ceramic, multilayer	2,784,633	27,447
685.8017	Fixed capacitors, metalized film, 2 MFD and over, oil filled	433,826	15,595
685.8021	Fixed capacitors, metalized film, other	108,381	17,538
685.8022	Fixed capacitors, metalized paper, 2 MFD and over, oil filled	64	409
685.8023	Fixed capacitors, metalized paper, 2 MFD and over, excluding oil filled	6,849	541
685.8026	Fixed capacitors, paper or film, excluding metalized 2 MFD and over	100,807	9,824
685.8028	Fixed capacitors, paper or film, less than 2 microfarads	439,854	38,936
685.8030	Fixed capacitors, mica	220,574	18,039

See footnotes at end of table 7B.

Table 7A. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1984--Continued

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
685.8035	Fixed capacitors n.e.c.	313,016	44,003
685.8040	Electrical capacitors n.e.c.	95,694	18,214
685.8100	Electrical capacitors, fixed or variable, Canadian article, APTA	(NA)	18,795
685.9048	Electrical connectors, coaxial	15,205	8,962
685.9051	Electrical connectors, cylindrical, multicontact, not rated over 199 V and 20 A	219,990	14,617
685.9022,9024,9026, 9028,9032	Electronic switches	123,373	90,630
685.9052	Electrical connectors, rack and panel	15,680	17,576
685.9053	Electrical connectors, printed circuit	27,655	17,095
685.9054	Other electrical connectors	1,131,091	213,134
685.9056,9058,9059	Printed circuit boards	54,030	277,197
686.1030	Resistors, variable, wire-wound, including potentiometers	4,296	10,032
686.1035	Resistors, variable, except wire-wound	452,637	145,202
686.1041	Resistors, fixed carbon composition	1,092,976	13,781
686.1042	Resistors, fixed carbon	6,697,176	34,923
686.1043	Resistors, fixed, film, other than carbon	401,341	8,791
686.1053	Resistors, fixed, wire-wound	54,643	8,642
686.1057	Resistors, fixed, except film composition or wire-wound	1,705,866	48,685
686.1060	Parts of resistors and potentiometers	(NA)	24,651
686.1100	Resistors, fixed or variable, except heating elements, Canada APTA	(NA)	441
687.3512,13, 14,16,18,20	Television picture tubes, color	793	56,289
687.3600	Television picture tubes, Canadian article	(NA)	(NA)
687.4200	Television picture tubes, other, 11.6 through 16.4 inch screen	66	1,242
687.4310	Television picture tubes, larger than 16.4 inch screen	312	16,296
687.4400	Television picture tubes, other, Canadian article	(NA)	(NA)
687.5405	Cathode-ray tubes n.e.s.	1,490	40,577
687.5408	Parts of cathode-ray tubes	(NA)	103,822
687.6610	Electronic receiving tubes	3,509	98,404
687.6611	Gas and vapor electron tubes, except cathode ray	32	721
687.6613	Electronic tubes, except cathode-ray, diodes, triodes, and tetrodes	8,798	3,404
687.6615	Magnetrons, electronic microwave tubes	(NA)	808
687.6617	Electronic klystron microwave tubes	3	5,370
687.6619	Microwave tubes, except klystron and magnetron	60	11,110
687.6621	Light-sensing electronic tubes	277	12,796
687.6623	Electronic tubes n.e.s.	447	28,568
687.7025	Transistors with dissipation rating of less than 1 watt	1,347,326	143,258
687.7027	Transistors with dissipation rating of 1 watt or greater	646,555	206,678
687.7410	Monolithic integrated circuits, linear	1,735,999	755,684
687.7420	Monolithic integrated circuits, bipolar, TTL	3,260,590	1,117,525
687.7425	Monolithic integrated circuits, bipolar, ECL	47,286	119,303
687.7430	Monolithic integrated circuits, except bipolar, other	30,285	50,112
687.7435,7445,7455	Monolithic integrated circuits, except bipolar, MOS	954,332	1,785,550
687.7460	Monolithic integrated circuits, except bipolar, other	53,193	83,434
687.7700	Integrated circuits, other than monolithic	(NA)	(NA)
687.7205	Diodes and rectifiers, photosensitive, solar cells	218	1,003
687.7210	Diodes and rectifiers, photosensitive, other than solar cells	78,979	79,994
687.7220	Zener diodes	831,123	37,536
687.7230	Diodes and rectifiers, microwave	2,084	2,960
687.7240	Thyristors	204,379	63,294
687.7250	Diodes and rectifiers, other than maximum current 0.5 amps or less	1,662,970	71,253
687.7255	Diodes and rectifiers, other	1,721,259	112,436
687.7900	Mounted piezoelectric crystals	220,145	93,580
687.8100	Other semiconductors	(NA)	76,639
687.8510	Chips, dice, and wafers as parts for semiconductors	(NA)	(NA)
687.8520	Parts for semiconductors	(NA)	629,050
687.8700	Photocells, crystals, including electron tube parts	(NA)	45,072
709.1520	Electrosurgical apparatus, therapeutic	(NA)	5,126
709.1540	Electrosurgical apparatus, other than therapeutic, and parts of electrosurgical apparatus	(NA)	14,867
709.1705	Pacemakers	11	14,696
709.1710	Diathermy units	(NA)	93
709.1715	Ultrasonic therapeutic devices	16	20,325
709.1720	Other electromedical therapeutic apparatus	171	13,211
709.1750	Electrocardiographs	5	8,266
709.1760	Electroencephalographs	1	2,710
709.1765	Complete patient monitoring systems	(NA)	12,155
709.1770	Other electromedical apparatus, other than therapeutic	(NA)	225,038
709.1790	Parts for electromedical apparatus, other than electrosurgical	(NA)	84,222
709.6120	X-ray tubes	35	37,237
709.6140	Parts for X-ray tubes	(NA)	6,265
709.6320	X-ray apparatus for medical or dental use, and parts thereof	(NA)	346,689
709.6340	X-ray apparatus for other than medical or dental use, and parts thereof	(NA)	67,366
709.6620	Medical or dental apparatus based on the use of radioactive substances, and parts thereof	(NA)	14,219
710.3000	Automatic pilots and parts thereof	(NA)	900

See footnotes at end of table 7B.

Table 7A. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1984--Continued

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
724.4510	Magnetic recording media, unrecorded, audio, cassettes	248,821	147,924
724.4520	Magnetic recording media, unrecorded, audio, cartridges	851	1,334
724.4530	Magnetic recording media, audio, unrecorded n.e.s.	(NA)	50,538
724.4540	Magnetic recording media, unrecorded, video, video and audio, cassette	73,566	324,156
724.4550	Magnetic recording media, unrecorded, video, video and audio, cartridge	629	2,935
724.4560	Magnetic recording media, unrecorded, video, video and audio n.e.s.	(NA)	117,831
724.4565	Computer tape	(NA)	49,483
724.4570	Magnetic recording media, other than audio, video, or computer tape	(NA)	71,178
854.1000	Radiation apparatus for nonprofit institution, duty-free	(NA)	14,604

See footnotes at end of table 7B.

Table 78. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1983

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
682.0520	Transformers, rated at less than 40 VA	62,485	54,870
684.6210	Telephone switching and switchboard apparatus	(NA)	305,659
684.6220	Telephone instruments	25,769	493,706
684.6230	Intercom systems	333	7,216
684.6240	Other telephonic apparatus and parts n.s.p.f.	(NA)	350,300
684.6420	Teleprinting teletypewriting machines and parts	(NA)	96,418
684.6440	Telegraph apparatus and instruments n.e.s., and parts	(NA)	106,899
684.7030	Audio-frequency electric amplifiers	4,791	164,359
684.7050	Parts for loudspeakers, microphones, amplifiers, etc.	(NA)	101,104
685.1015,1025	Television cameras, color	799	232,751
685.1040	Televisions cameras, except color	80	15,461
685.1060	Parts n.e.s. for television cameras	(NA)	51,965
685.1300	Television receivers, monochrome, complete, unassembled kits	16	414
685.1358	Television subassemblies, mono., receivers with picture tubes	(NA)	(NA)
685.1455	Television receivers, color, complete, unassembled kits	449	51,372
685.1456,1458	Television receivers, subassemblies, color, with picture tube, 17 inches and under	69	5,966
685.1460	Television receivers, subassemblies, color, with picture tube, 18 inches and over	16	1,644
685.1463	Television receivers, incomplete, color, with picture tube n.s.p.f.	7	3,753
685.1564	Main PC board with special components for color TV with chassis frame	2,229	132,915
685.1566	Main PC board with special components for color TV without chassis frame	12,972	154,566
685.1600	Main PC board, color TV n.s.p.f.	(NA)	402,934
685.1700	Tuners for television receivers	6,312	107,630
685.1876	Antennas for television receivers	10,615	12,085
685.1877	Deflect yokes, conn assembles, flyback, focus coil and parts, TV	25,658	137,434
685.1878	Other parts and subassemblies of TV receivers	(NA)	95,912
685.1910	Cable television apparatus, including converters, amplifiers, couples, etc.	(NA)	419,112
685.1915	Antennas for TV other than parts of TV receiver	(NA)	8,380
685.1940,1950	Other television apparatus, and parts thereof	(NA)	346,696
685.2461	Radio receivers, solid state n.e.c.	1,433	28,365
685.2470	Citizen's band radio receivers	19	735
685.2472	Other radio receivers, below 30 MHz signal reception	257	12,209
685.2475	Radio receivers, above 30 MHz up through 400 MHz signal reception	430	30,883
685.2480	Radio receivers, above 400 MHz up through 1,000 MHz signal reception	6	963
685.2485	Radio receivers over 1,000 MHz signal reception	8	1,880
685.2600	Low-power radiotelephonic transceivers, 49.82 to 49.90 MHz	2,373	15,828
685.2702	CB transceivers, AM or AM/FM combinations	30	1,503
685.2715	CB transceivers, except hand-held, a.c. only	7	262
685.2725	CB transceivers, except hand-held, d.c. only	726	28,658
685.2735	CB transceivers, except hand-held, other	131	6,492
685.2910	CB transceivers, hand-held, not over $7.50	28	148
685.2912	CB transceivers, hand-held, over $7.50	295	7,567
685.2940	Transceivers, other than CB, hand-held	160	12,678
685.2943	Transceivers, other than CB, other than hand-held	615	61,396
685.2950	Radio receivers, other than solid-state	5	650
685.2960	Antennas, CB	843	4,591
685.2962	Antennas, other than CB	10,668	39,068
685.2970	Radio transmitters	1,019	20,076
685.2976	Other radio apparatus and parts	(NA)	424,242
685.4055	Color video recording machines, other than cartridge or cassette	[2]3,567	8,797
685.4058	Black and white video recording machines, all types	[2]2,618	1,397
685.5085	Radio telecommunications equipment n.e.s.	(NA)	34,677
685.5520	Radio receivers, Canadian article	50	12,009
685.5540	Radiotelegraphic and radio telephonic apparatus n.e.s., Canadian article	(NA)	3,643
685.6021	Radar apparatus, designed for boat or ship installation	8	15,247
685.6025	Radar apparatus, designed for other than boat or ship installation	6	2,187
685.6035	Parts for radar apparatus	(NA)	20,945
685.6041	Radio navigational aid apparatus, reception only	75	12,256
685.6050	Radio navigational aid apparatus, other than reception only	258	16,800
685.6055	Parts for radio navigational aid apparatus	(NA)	18,406
685.6060	Other radio navigational, radar, or radio remote control apparatus	(NA)	37,103
685.7002	Smoke detectors	2,628	18,976
685.7004	Other burglar and fire alarms	3,220	30,950
685.7080	Electric signaling devices n.s.p.f.	(NA)	57,542
685.7100	Electric sound or visual signaling, Canadian article	(NA)	4,498
685.8001,8002,8004,	Fixed capacitors, aluminum electrolytic	867,411	65,829
685.8006,8007,8008	Fixed capacitors, tantalum electrolytic	172,876	24,380
685.8011,8012	Fixed capacitors, ceramic, single layer	1,530,295	33,491
685.8013,8016	Fixed capacitors, ceramic, multilayer	1,148,468	58,374
685.8017	Fixed capacitors, metalized film, 2 MFD and over, oil filled	1,149,418	41,833
685.8021	Fixed capacitors, metalized film, other	76,878	10,493
685.8022	Fixed capacitors, metalized paper, 2 MFD and over, oil filled	52	41
685.8023	Fixed capacitors, metalized paper, 2 MFD and over, excluding oil filled	5,756	585
685.8026	Fixed capacitors, paper or film, excluding metalized 2 MFD and over	68,248	6,088
685.8028	Fixed capacitors, paper or film, less than 2 microfarads	287,309	24,613
685.8030	Fixed capacitors, mica	180,590	13,033

See footnotes at end of table.

Table 7B. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
685.8035	Fixed capacitors n.e.c.	226,789	25,169
685.8040	Electrical capacitors n.e.c.	69,518	12,667
685.8100	Electrical capacitors, fixed or variable, Canadian article, APTA	(NA)	8,738
685.9048	Electrical connectors, coaxial	21,520	7,094
685.9051	Electrical connectors, cylindrical, multicontact, not rated over 199 V and 20 A	239,957	28,510
685.9022,9024,9026, 9028,9032	Electronic switches	148,285	79,843
685.9052	Electrical connectors, rack and panel	9,553	8,817
685.9053	Electrical connectors, printed circuit	40,369	17,546
685.9054	Other electrical connectors	965,425	162,601
685.9056,9058,9059	Printed circuit boards	57,200	186,660
686.1030	Resistors, variable, wire-wound, including potentiometers	8,033	4,915
686.1035	Resistors, variable, except wire-wound	365,990	103,921
686.1041	Resistors, fixed carbon composition	805,216	10,946
686.1042	Resistors, fixed carbon	5,449,723	31,710
686.1043	Resistors, fixed, film, other than carbon	612,880	8,817
686.1053	Resistors, fixed, wire-wound	81,767	6,980
686.1057	Resistors, fixed, except film composition or wire-wound	621,697	29,021
686.1060	Parts of resistors and potentiometers	(NA)	12,745
686.1100	Resistors, fixed or variable, except heating elements, Canada APTA	(NA)	1,094
687.3512,13, 14,16,18,20	Television picture tubes, color	674	46,839
687.3600	Television picture tubes, Canadian article	(NA)	(NA)
687.4200	Television picture tubes, other, 11.6 through 16.4 inch screen	41	857
687.4310	Television picture tubes, larger than 16.4 inch screen	94	5,172
687.4400	Television picture tubes, other, Canadian article	(NA)	(NA)
687.5405	Cathode-ray tubes n.e.s.	1,398	56,855
687.5408	Parts of cathode-ray tubes	(NA)	61,559
687.6610	Electronic receiving tubes	6,669	10,015
687.6611	Gas and vapor electron tubes, except cathode ray	136	564
687.6613	Electronic tubes, except cathode-ray, diodes, triodes, and tetrodes	9,129	1,749
687.6615	Magnetrons, electronic microwave tubes	1,535	1,567
687.6617	Electronic klystron microwave tubes	2	4,312
687.6619	Microwave tubes, except klystron and magnetron	74	9,402
687.6621	Light-sensing electronic tubes	173	9,958
687.6623	Electronic tubes n.e.s.	2,104	24,388
687.7025	Transistors with dissipation rating of less than 1 watt	1,247,341	120,466
687.7027	Transistors with dissipation rating of 1 watt or greater	507,250	141,691
687.7410	Monolithic integrated circuits, linear	1,228,549	502,782
687.7420	Monolithic integrated circuits, bipolar, TTL	2,219,488	733,382
687.7425	Monolithic integrated circuits, bipolar, ECL	59,298	70,505
687.7430	Monolithic integrated circuits, except bipolar, other	24,356	30,029
687.7435,7445,7455	Monolithic integrated circuits, except bipolar, MOS	944,660	1,230,545
687.7460	Monolithic integrated circuits, except bipolar, other	73,481	45,656
687.7700	Integrated circuits, other than monolithic	(NA)	(NA)
687.7205	Diodes and rectifiers, photosensitive, solar cells	984	747
687.7210	Diodes and rectifiers, photosensitive, other than solar cells	55,354	22,897
687.7220	Zener diodes	455,384	18,942
687.7230	Diodes and rectifiers, microwave	7,940	3,353
687.7240	Thyristors	162,573	46,135
687.7250	Diodes and rectifiers, other than maximum current 0.5 amps or less	1,308,553	45,530
687.7255	Diodes and rectifiers, other	1,061,197	87,084
687.7900	Mounted piezoelectric crystals	117,702	59,978
687.8100	Other semiconductors	(NA)	21,347
687.8510	Chips, dice, and wafers as parts for semiconductors	(NA)	(NA)
687.8520	Parts for semiconductors	(NA)	254,856
687.8700	Photocells, crystals, including electron tube parts	(NA)	47,198
709.1520	Electrosurgical apparatus, therapeutic	(NA)	3,567
709.1540	Electrosurgical apparatus, other than therapeutic, and parts of electrosurgical apparatus	(NA)	11,782
709.1705	Pacemakers	11	10,159
709.1710	Diathermy units	1	212
709.1715	Ultrasonic therapeutic devices	4	4,879
709.1720	Other electromedical therapeutic apparatus	76	6,662
709.1750	Electrocardiographs	4	9,774
709.1760	Electroencephalographs	1	2,576
709.1765	Complete patient monitoring systems	(NA)	12,850
709.1770	Other electromedical apparatus, other than therapeutic	(NA)	105,083
709.1790	Parts for electromedical apparatus, other than electrosurgical	(NA)	57,435
709.6120	X-ray tubes	25	38,875
709.6140	Parts for X-ray tubes	(NA)	3,889
709.6320	X-ray apparatus for medical or dental use, and parts thereof	(NA)	171,437
709.6340	X-ray apparatus for other than medical or dental use, and parts thereof	(NA)	46,562
709.6620	Medical or dental apparatus based on the use of radioactive substances, and parts thereof	(NA)	11,843
710.3000	Automatic pilots and parts thereof	(NA)	6,346

See footnotes at end of table.

Table 7B. IMPORTS FOR CONSUMPTION OF ELECTRONIC PRODUCTS: 1983--Continued

(Quantity in thousands of units; value in thousands of dollars)

Import number	Product description	Quantity	Value[1]
724.4510	Magnetic recording media, unrecorded, audio, cassettes	192,751	160,020
724.4520	Magnetic recording media, unrecorded, audio, cartridges	916	1,168
724.4530	Magnetic recording media, audio, unrecorded n.e.s.	(NA)	56,092
724.4540	Magnetic recording media, unrecorded, video, video and audio, cassette	45,363	231,507
724.4550	Magnetic recording media, unrecorded, video, video and audio, cartridge	516	2,639
724.4560	Magnetic recording media, unrecorded, video, video and audio n.e.c.	(NA)	98,431
724.4565	Computer tape	(NA)	30,733
724.4570	Magnetic recording media, other than audio, video, or computer tape	(NA)	24,873
854.1000	Radiation apparatus for nonprofit institution, duty-free	(NA)	12,165

(NA) Not available. N.e.c. Not elsewhere classified. N.e.s. Not elsewhere specified. N.s.p.f. Not specifically provided for.

[1] Value of imported items includes cost, insurance, freight, and import duties.

Source: Bureau of the Census report IM 145-X, U.S. Imports for Consumption and General Imports.

Table 8. COMPARISON OF STANDARD INDUSTRIAL CLASSIFICATION-BASED CODES, SCHEDULE B EXPORT NUMBERS, AND TSUSA IMPORT NUMBERS: 1984 AND 1983

Product code	Product description	Export number	Import number
36611	Telephone switching and switchboard equipment	684.6210	684.6210
36612	Other telephone and telegraph (wire) apparatus	684.6220 684.6240 684.6420 684.6440	684.6220 684.6240 684.6420 684.6440
36621	Communication systems and equipment	685.2061 685.2630 685.2642 685.2650 685.2660 685.2705 685.2710 685.2715 685.2720 685.2725 685.2730 685.2735 685.2740 685.2745 685.2750 685.2755 685.2760 685.2765	685.1876 685.2461 685.2471 685.2473 685.2474 685.2476 685.2485 685.2600 685.2702 685.2715 685.2725 685.2735 685.2910 685.2912 685.2940 685.2943 685.2950 685.2960 685.2962 685.2970 685.2976 685.5520 685.5540
36622	Broadcast studio and related electronic equipment	685.1050 685.1060 685.2075 685.2085 685.4050 685.4058	685.1015,1025 685.1040 685.1060 685.1910 685.1915 685.1930 685.1950 685.4055 685.4058
36624	Alarm systems	685.7072 685.7074 685.7077 685.7095	685.7002 685.7004 685.7080 685.7100
36625	Search and detection systems and navigation and guidance systems and equipment n.e.c.	685.6021 685.6026 685.6035 685.6043 685.6045 685.6055 685.6060	685.6021 685.6025 685.6035 685.6041 685.6050 685.6055 685.6060 710.3000
36626	Vehicular and pedestrian control equipment Railway signals and attachments, electric	685.7040 685.7045 685.7050	(NA)
36628	Intercommunication systems	(NA)	684.6230
36629	Electronic systems and equipment n.e.c.	678.5007 685.2052 685.2071 688.4020	685.1300 685.1358 685.1455 685.1456 685.1458 685.1358 685.1460 685.1463 685.1700 685.1877 685.1878
36711	Electron tubes, receiving type	687.6010	687.6610
36712	Cathode ray picture tubes, including rebuilt	687.3530 687.3560 687.4000	687.3512,3513,3514 687.3516,3518 687.3520 687.4200 687.4310,4400
36713	Transmitting, industrial, and special-purpose electron tubes	687.6006 687.6007 687.6011 687.6013 687.6015 687.6017 687.6019 687.6021 687.6023	687.5405 687.6611 687.6613 687.6615 687.6617 687.6619 687.6621 687.6623

See footnotes at end of table.

Table 8. COMPARISON OF STANDARD INDUSTRIAL CLASSIFICATION-BASED CODES, SCHEDULE B EXPORT NUMBERS, AND TSUSA IMPORT NUMBERS: 1984 AND 1983--Continued

Product code	Product description	Export number	Import number
36741	Integrated microcircuits	687.6031 687.6035 687.6038 687.6040 687.6045 687.6048 687.6053	687.7410 687.7420 687.7425,7430 687.7435, 7445,7455 687.7460 687.7700
36742	Transistors	687.6025 687.6027	687.7025 687.7027
36743	Diodes and rectifiers	687.6057 687.6059 687.6061 687.6062 687.6066 687.6067	687.7205 687.7210,7220,7230 687.7250 687.7255
36749	Other semiconductor devices	687.6068 687.6070 687.6087	687.7240 687.8100 687.8510 687.8520
36750	Capacitors for electronic applications	685.8005 685.8010 685.8015 685.8025 685.8030 685.8035 685.8040	685.8001,8002,8004 685.8006,8007,8008 685.8011,8012 685.8013,8016 685.8017 685.8021 685.8022 685.8023 685.8026 685.8028 685.8030 685.8035 685.8040 685.8100
36760	Resistors for electronic applications	686.1030 686.1035 686.1047 686.1050 686.1053 686.1057	686.1030 686.1035 686.1041 686.1042 686.1043 686.1053 686.1057 686.1100
36770	Coils, transformers, reactors, and chokes	682.0520 682.6052	682.0520
36781	Coaxial (RF) connectors	685.9048	685.9048
36782	Cylindrical connectors	685.9051	685.9051
36783	Rack and panel connectors	685.9052	685.9052
36784	Printed circuit connectors	685.9053	685.9053
36785	Parts for connectors	(NA)	(NA)
36791	Filters except microwave and peizoelectric devices	(NA)	(NA)
36792	Magnetic recording tape	724.4505 724.4535 724.4565	724.4510 724.4520 724.4530 724.4540 724.4550 724.4560 724.4565
36793	Microwave components and devices	687.6015 687.6017 687.6019	687.6615 687.6617 687.6619
36795	Transducers, electrical/electronic input or putput n.e.c	(NA)	(NA)
36796	Switches, mechanical types for electronci circuitry	685.9019 685.9023	685.9022,9024,9026, 9028,9032
36797	Printed circuit boards	685.9055	685.9056,9058,9059
36798	Complex components	(NA)	(NA)
36799	All other electronic components n.e.c	(NA)	(NA)
36931	Irradiation equipment	709.6120 709.6140 709.6320 709.6340 709.6620	709.6120 709.6140 709.6320 709.6340 709.6620 854.1000
36933	Electromedical equipment	709.1605 709.1610 709.1615 709.1620 709.1655 709.1660 709.1665 709.1670 709.1690	709.1520 709.1540 709.1705 709.1710 709.1715 709.1720 709.1750 709.1760 709.1765 709.1770 709.1790

N.e.c. Not elsewhere classified. (NA) Not available.

DESCRIPTION OF SURVEY

Scope of Survey—This survey covers all significant manufacturers of selected electronic and associated products, including telephone and telegraph apparatus. The mailing panel included all establishments with 20 employees or more for industries 3661, 3662, 3671, 3674, 3675, 3676, 3677, 3678, 3679 and 3693.

Survey Methodology—The statistics in this publication were collected by mail on Bureau of the Census annual Form MA36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus. The survey panel includes all known manufacturers of telephone and telegraph apparatus, communications systems and equipment, and electronic equipment, except the firms excluded from the scope of the survey (as noted above). Approximately 3,838 companies are included. No estimate is derived for the small firms excluded from the survey.

Reliability of Data—Survey error may result from several sources: (1) inability to obtain information about all cases in the survey, (2) response errrors, (3) definitional difficulties, (4) differences in the interpretation of questions, (5) mistakes in recording or coding the data obtained, and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which fail logic edits. Missing figures are imputed based on yearly movements shown by reporting firms. Imputation generally is limited to a maximum of 15 percent for any data cell. Figures with imputation rates greater than 15 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 15 percent should be used with caution.

Revisions to Previous Period Data—Statistics for previous years may be revised as the result of corrected data from respondents, late reports for which imputations were made as described above, or other corrections. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

Revisions include changes to prior period data resulting from reconciliation of the results of this survey with the 1982 Census of Manufactures to correct differences in reported data between the two series and to identify and verify new establishments included in the scope of this survey. Table 4 presents a comparison of data from the two series by census product class following the reconciliation.

Adjustment for Price Change—All dollar figures included in this publication are in current dollars; i.e., they have not been adjusted for price change.

EXPLANATION OF TERMS

Quantity and Value of Shipments—The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable sales to unaffiliated customers; i.e., the value includes an appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Research and Development—Dollar shipments reflect income from development, design, and engineering services performed by the reporting plant in connection with the manufacture of the products shipped, whether included in a single production contract, or contracted for separately, but intended as preparation for the manufacture of the specific products.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Aside from the differences in the basic commodity classifications, there are additional problems involving import data, since there are a substantial number of imported commodities which are not produced in the United States or which are produced only in very small quantities and which, therefore, have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.

Valuation—There are different methods of valuation for the three types of data:

Domestic Output—Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.

Exports—Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance, and other charges to the export point.

Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.

Imports—Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

Duplication in Quantity and Value of Output—Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

Low-Value Export and Import Transactions. Detailed commodity information is not included for individual import shipments valued at not more than $250 or for individual export shipments valued at not more than $500. This is believed to have only negligible effects on the statistics for the bulk of the commodities.

Manufacturers' Shipments, Not Specified by Kind—The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

Time Lag Between Output and Exports—There will be a lag between the time a commodity is produced or shipped by the producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

"Direct" vs "Total" Commodity Exports and Imports—Export and import data do not include materials which are incorporated into other more finished products and exported or imported in finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

Used Commodities—With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

Geographic Area of Coverage—Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory (includes the 50 States, the District of Columbia, and Puerto Rico).

HISTORICAL NOTE

Data on selected electronic and associated products have been collected by the Bureau of the Census since 1961. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. A list of these libraries may be obtained from the Bureau of the Census regional offices:

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Kansas City, Kansas	(816) 374-4601
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CONTACTS FOR DATA USERS

Subject Area	Contact	Phone Number
Current Industrial Report MA36N	Stephen Pope	(301) 763-5353
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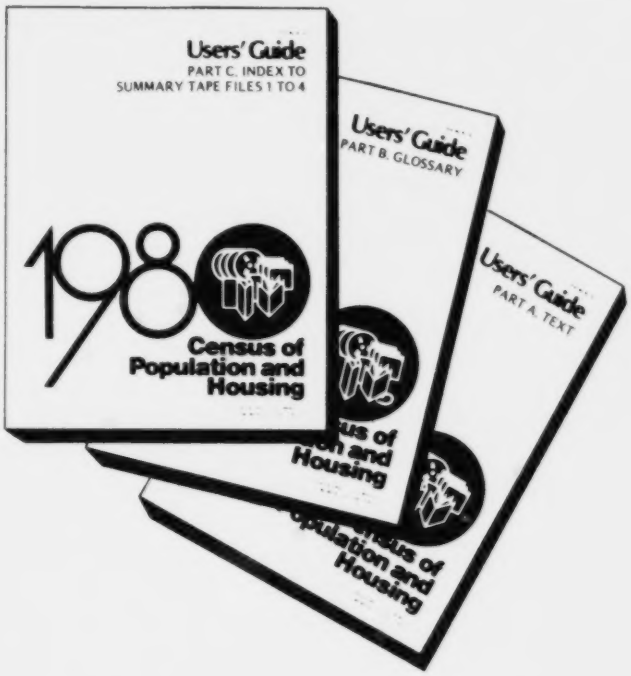

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